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Articles

ON KEYNES' ECONOMIC SYSTEM — PART TWO .. .. ERIK LINDAHL 159
THE AUSTRALIAN CAPITAL MARKET, 1946-1953 .. .. R. F. HENDERSON 172
THE FACTOR GAP AND THE LEVEL OF WAGES .. .. G. C. ARCHIBALD 187
THE "PRINCIPAL FACTORS" APPROACH TO INDEX NUMBER THEORY .. .. R. S. G. RUTHERFORD 200
BALANCE OF PAYMENTS EQUILIBRIUM AND MONETARY POLICY .. .. R. J. FAMILTON 209
THE INTERNATIONAL WHEAT AGREEMENT OF 1949 .. .. M. HODAN 225
AUSTRALIAN OVERSEAS LIQUIDITY, 1870-1880 .. .. J. D. BAILEY 232

Notes

WELFARE ECONOMICS: A STOCKTAKING .. .. M. C. KEMP 245
END-USES OF WOOL IN THE UNITED KINGDOM .. .. A. P. ZENTLER and JOAN GHERSON 252
THE POST-WAR AUSTRALIAN BOND MARKET .. .. .. H. W. ARNDT 263
FULL COST PRICING IN WESTERN AUSTRALIA .. .. A. C. COOK and E. H. JONES 272
INDEXES OF VOLUME AND QUANTUM .. .. S. R. CARVER 274
OBITUARY: G. V. PORTUS .. .. S. J. BUTLIN 276

News and Notes 279

Reviews (see inside cover) 281

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REVIEWS

Page

ASHTON, T. S., and SAYERS, R. S. : *English Monetary History*
J. D. BAILEY 309

BASU, S. K. : *Industrial Finance in India* .. .. H. BELSHAW 327

BURNS, A. F. (ed.) : *Wesley Clair Mitchell* .. .. .. S. J. BUTLIN 313

CAIRNCROSS, A. K. : *Investment 1870-1913* .. .. .. S. J. BUTLIN 308

CAMERON, B. D. : *The Determination of Production*
C. F. G. SIMKIN 281

CARTER, C. F., and ROY, A. D. : *British Economic Statistics*
J. POLGLAZE 288

COPLAND, D. B. : *Problems of the Sterling Area* .. J. O. N. PERKINS 295

DANDEKAR, V. M. and K. : *Fertility in Poona District*
H. BERNADELLI 329

DAY, A. C. L. : *Future of Sterling* .. .. J. O. N. PERKINS 295

EMMINGER, O. : *Deutschland's Stellung* .. .. E. LERDAU 305

FFORDE, J. S. : *Federal Reserve System, 1945-49* .. H. W. ARNDT 307

FRIEDMAN, M. : *Positive Economics* .. .. C. S. SOPER 323

FULFORD, R. : *Glyn's, 1753-1953* .. .. D. ROWAN 310

GILBERT, M. (ed.) : *Income and Wealth* .. R. S. G. RUTHERFORD 291

HAMILTON, D. : *Newtonian Classicism* .. .. G. S. L. TUCKER 312

HANSEN, A. H., and CLEMENCE, R. V. : *Business Cycles and National Income* .. .. P. H. KARMEL 320

HARROD, R. : *The Dollar* .. .. F. W. HOLMES 293

HARTWELL, R. M. : *Van Diemen's Land, 1820-50* .. K. M. DALLAS 299

HAYNES, W. H. : *Nationalization in Practice* .. F. G. DAVIDSON 316

INTERNATIONAL LABOUR ORGANIZATION: *Housing Problems in Asia* .. .. M. M. BAYNE 326

KALECKI, M. : *Economic Dynamics* .. .. B. CHEEK 321

KNOWLES, K. G. J. C. : *Strikes* .. .. D. W. OXNAM 315

KORNER, E. : *The Law of Freedom* .. .. J. F. CAIRNS 333

KUZNETS, S. : *Shares of Upper Income Groups* .. .. H. P. BROWN 289

LAMBIE, J. T., and CLEMENCE, R. V. : *Economic Change in America* .. .. M. RONALDSON 305

LITTLE, I. M. D. : *The Price of Fuel* .. .. .. F. G. DAVIDSON 316

LUTTRELL, W. F. : *Industrial Movement* .. .. .. D. M. HOCKING 315

MANGOLDT, H. K. v. : *Die Europaeische Zahlungsunion* .. K. BIEDA 298

MATTHEWS, R. C. O. : *Trade Cycle History, 1833-42* .. J. GINSWICK 302

MOUNTAIN, G. R., *et al.* : *Taxation Policy* .. .. .. W. R. LANE 292

NEISSER, H., and MODIGLIANI, M. : *National Incomes and International Trade* .. .. A. H. BOXER 282

PIGOU, A. C. : *Marshall and Current Thought* .. .. .. R. HIESER 314

SALTER, W. E. S. : *Australian Industrial Production* .. J. W. ROWE 284

SPENCER, L., and JOHNSON, S. : *Milk Distribution*
J. P. BELSHAW 319

STONE, J. : *International Conflict* .. .. P. H. PARTRIDGE 330

STONE, R. : *Consumer's Expenditure in U.K., 1920-38*
D. COCHRANE 286

THE ECONOMIC RECORD

NOVEMBER, 1954

ON KEYNES' ECONOMIC SYSTEM—PART TWO*

1

When in the first part of this paper an attempt was made to give an easily comprehensible representation of Keynes' system, it was assumed that the system was of the *long-run type* which is used in comparative statics for the determination of equilibria. The question of whether the fundamental assumptions of the system concerning parameters and functions were consistent with this assumption was not touched upon in that connection. We will now discuss from various points of view this question and the possibility of certain modifications in the construction of the system.

An important assumption which is decisive for the construction of the whole system is that money wages and not *real wages* are a given parameter.[16] This assumption is undeniably justified in a short-run system which is used for a study of the immediate reactions in a certain position. Like other economic subjects the workers are to a certain extent captured by "the money illusion": a certain benefit in cash often weighs heavier than the same benefit in the form of lower prices of consumption goods and usually resistance is stronger against a decrease in real wages which is connected with a lowering of money wages than against a decrease which is caused by higher cost of living. But from this the conclusion must not be drawn that workers are, also in the long run, insensitive to the changes in real wages at given money wages, which is assumed in Keynes' system in its usual form. In any case it has been instanced that during the latest years of inflation, when higher costs of living have almost always provoked compensating demands for wages, the workers' final resort is to aim at the maintenance of a certain level of real wages. It is, however, not denied that money wages have as a rule shown themselves inflexible in the other direction and that instances are not lacking of the difficulties of adjusting money wages downwards with a falling price level. But in the construction of a static equilibrium which should be maintained for several periods during which workers will certainly

* This is the second part of an article by Professor Erik Lindahl, originally published in Swedish in the *Ekonomisk Tidskrift*, Vol. LV (1953): 3, pp. 186-217. The first part was published in the May 1954 issue.

16. Keynes does admit (*General Theory*, p. 29) that the real wage cannot be lower than the level corresponding to "the marginal disutility of labour", but this assumption does not seem to have influenced to any great extent the formulations of his general system.

have time to become conscious of the relation between money wages and real wages, it seems most reasonable in the first place to treat the case where real wages are given.

Let us therefore examine the consequences for the system if in the system of equations formerly treated, equation (10) stating that money wages are a parameter ($PW = \overline{W}^*$), is replaced by a new equation $W = W^*$ (11), which states that real wages are given, while the other assumptions are unchanged for the time being. Let us also assume that at the given real wage—which can be assumed to be guaranteed by an index clause in the wage agreement or even, as in Australia and New Zealand, to be regulated by law—the same amount of labour power (N^*) is available as in the former case at the given money wage.

Returning to Fig. 3 where all values have been expressed in real units and allowing W' to represent the given real wage (W^*),[17] we find that this line intersects the curve $W(N)$—which indicates the highest real wages which entrepreneurs are willing to pay at various levels of employment—at a point where employment has been limited to N' and a certain unemployment ($N\text{-}N'$) exists. The question now is what this point of intersection actually means. From the point of view of "classical theory" it undoubtedly gives the equilibrium in the labour market. Could Keynes arrive at any other result from his starting points? In his system the demand for labour is not a function of wages but of real national income, which as a sum of consumption and investment, is determined by the consumption (or saving) function, the investment function, the interest function, and the division of the given volume of money into transaction and speculation balances. Only when we determine the relation between these two kinds of balances, does the money wage enter the picture, as the volume of transaction balances is dependent on the price level, for which the money wage is one of the determining factors. If the money wage had not been given, the price level could have had any height within the limits conditioned by possible redistributions between the two kinds of balances. In the same way, different positions of the rate of interest and investment would have been possible and consequently also different levels of income and employment. The connection between the wage level and employment becomes in this way less direct than in classical theory. But the whole of this construction relies upon the fact that the *money* wage is given. If the *real* wage instead is introduced as a parameter in the system, it seems difficult to avoid the consequence, that employment is immediately determined by the level of wages even

17. This curve can also be conceived as a supply curve of labour which leads horizontally to the position of employment N^* where it rises vertically. As in the case where the supply of labour was assumed to be a function of the money wage, we have preferred this simpler construction to the more usual one with the supply of labour as a continually rising function of income with a possible back turn of the curve in higher positions.

though the determination takes place within the frame of a system of simultaneous equations.

If we first consider a position with higher employment than N′ which corresponds to the given real wage W′, it can be asserted that this is not an equilibrium. It can be assumed that entrepreneurs, who in these cases consider themselves losing by the marginal production, try to compensate this by higher prices. But since under the assumption of the constancy of the real wage money wages follow in the rise, the result is an inflationary movement which increases the demand for transaction balances and thus diminishes speculation balances with an increase in the interest level as a consequence. As a result, investment and total income decrease and employment is lowered and perhaps becomes even lower than N′. But nor do positions with lower employment than N′ seem to represent a real equilibrium. Production is now at a lower level than before, and at the same time the price level and also money wages develop a tendency to fall. The result of this is a reduction of transaction balances and an increase in speculation balances which in its turn brings about a lowering of the interest rate and an increase in investment. Through this process the position is again shifted in the direction of greater income and higher employment. Even from Keynes' own starting-point one necessarily arrives at the conclusion that the position of equilibrium must coincide with the point of intersection of the curves of which one indicates the highest real wage the entrepreneurs are willing to pay (the curve W(N)) and the other the lowest real wage the workers are willing to accept (the line W′) at different levels of employment. The short treatment Keynes himself has given does not seem to contradict this interpretation of his theory.[18]

As the real wage replaces the money wage as a parameter, Keynes' theory becomes very similar to the "classical" one, according to which the point of intersection between the curves mentioned above represents equilibrium in the labour market. According to both theories, lower real wages would make higher employment possible. And in both

18. Cf. *General Theory*, p. 269: "If, as in Australia, an attempt were made to fix real wages by legislation, then there would be a certain level of employment corresponding to that level of real wages; and the actual level of employment would, in a closed system, oscillate violently between that level and no employment at all, according as the rate of interest was or was not below the rate compatible with that level; whilst prices would be in unstable equilibrium when investment was at the critical level, racing to zero whenever investment was below it, and to infinity whenever it was above it. The element of stability would have to be found, if at all, in the factors controlling the quantity of money being so determined that there always existed some level of money-wages at which the quantity of money would be such as to establish a relation between the rate of interest and the marginal efficiency of capital which would maintain investment at the critical level. In this event employment would be constant (at the level appropriate to the legal real wage) with money-wages and prices fluctuating rapidly in the degree just necessary to maintain this rate of investment at the appropriate figure." From this it is evident that Keynes builds the equilibrium at constant real wages in the same way as has been done here, although he considers that this position is extremely unstable. He is, of course, right in stating that the position is more sensitive than when money-wages are kept constant, since every change in the price level receives a strengthening effect from a corresponding change in money-wages. But when the equilibrium has been established, it should not be more difficult to maintain than an equilibrium based on constant money-wages. The quoted lines convey the impression that Keynes has applied here his theory of money and interest in a too schematic way.

these systems the actual volume of money ($\overline{M}^*$) has no other function than to determine, together with other factors, the absolute level of prices by the formula $P = \overline{M}^*/M$ (cf. equation (9)) in Keynes' system and by similar relations in the classical system.

Lawrence R. Klein, who has given his otherwise very instructive book on Keynes the title *The Keynesian Revolution* (1947), and has been anxious to stress the distinctive features in the Keynesian system, has tried to defend the thesis that from Keynes' assumptions it is possible to arrive at another equilibrium than the traditional one, even if the supply of labour is conceived as determined by real wages.[19] Here, however, he starts from the *special* variant of the theory, according to which unemployment in a given position cannot be eliminated by a lowering of the real wage because the investment function I(R) is too inelastic and/or the liquidity function $M_2(R)$ is too elastic. Consequently an increase in speculation balances would not lead to a lowering of the interest rate, and even if a lowering of the rate did evolve, the result would not be an increase in investment. We can, therefore, accept the income and employment which are results of the lowered level of investment, even if there should be in this position unemployed who are willing to work at a lower real wage than that which entrepreneurs are willing to pay. These workers cannot be employed because their employment would result in a rise in income so great that saving would exceed the level corresponding to the actual possibilities of investment.[20]

We do not deny that this extreme variant of the Keynesian system which is now and then referred to may correspond to actual cases. But it is then the question of pronounced deflationary situations and not of such equilibria which are treated in comparative statics. If the system is to be useful in determining static equilibria, it should be modified in a direction *opposite* to that suggested by Klein.

Thus the *investment function* I(R) should be given a very *elastic* form to be valid as a static long-run function. The interest level during

19. "It hardly seems possible that Keynes could say that his major contribution to economic theory was to point out a money illusion on the part of workers as the cause of unemployment. Keynes' real contribution, to repeat, has been to show that if savings are not offset by legitimate investment outlets, failure to generate a high level of employment will follow. *Even if the Keynesian supply curve of labour is replaced by the classical supply curve in terms of real wages, there remains the problem of making savings pass into investment.*" (*Ibid.*, p. 81.)

20. Klein elucidates his reasoning by a diagram (*ibid.*, p. 87) which is given here in a somewhat enlarged form. We assume that due to the character of the liquidity and investment functions, total real income in the economy cannot exceed Y'. In such a case employment cannot be greater than N' in spite of the fact that the real wage which entrepreneurs are ready to pay, $W_d(N)$, at this level of employment is considerably larger than the real wage which the workers demand, $W_s(N)$. Klein presumes that competition between entrepreneurs causes the real wage to rise to a maximum, W'. At this level of wages the supply of labour equals N'' and the number of unemployed is N''— N'. In this way Klein arrives at unemployment in a formal sense—according to which every person is unemployed who at existing wages does not get the employment desired—even when the workers continually demand higher wages with increased employment. If in the previous representation of Keynes' system we had used a rising $W_s(N)$ curve instead of the one which is horizontal up to a certain point, as is illustrated by the W' line in Fig. 3, the equilibria which we constructed and found to agree with the point of intersection of the W_d and W_s curves, would not be connected with any unemployment in this sense. Cf. p. 3 and note 17.

such equilibrium processes as are treated here, and which are characterized by the fact that investors anticipate developments and make their dispositions early, could not diverge very much from the interest level which corresponds to the "marginal efficiency" of the whole stock of capital if stationary conditions are assumed.[21] This stationary

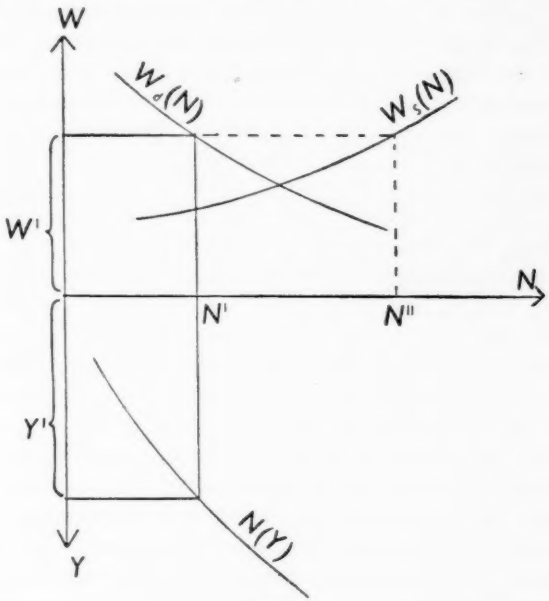

FIGURE 5

equilibrium level is only slowly lowered as the stock of capital increases. The annual additions by new investment must, as a rule, be fairly small in relation to the whole stock. If two economies with roughly equal stocks of capital are compared and one has a somewhat greater annual volume of investment than the other, we can assume that the interest level in the former economy is not much lower than in the latter.

The comparison which relates to equilibrium processes is thus of an entirely different type than an examination of the effect of an unexpected change in the interest level in a certain economy. In the latter case entrepreneurs have not in advance adjusted the production

21. Cf. A. P. Lerner, *The Economics of Control* (New York 1945), p. 330 ff, where the question of the relation between "the marginal productivity of capital" and "the marginal efficiency of investment" is treated in an instructive way. Lerner points out that the two concepts coincide under stationary conditions, while in an expanding economy the former magnitude is higher and the latter equal to the current level of interest; it is in fact the difference between them which causes the investment. He does not, however, touch upon the question of how great the difference will be during the equilibrium (with certain foresight) with which we are concerned here.

apparatus for a sudden increase of capital production and the existing stock of capital has not a structure that easily permits the assimilation of fairly large annual additions of investment. In such a case, the interest level must be lowered considerably below the stationary position to have a noticeable effect on the volume of investment. We are, therefore, justified in saying that the volume of investment is in the short run rather inelastic to changes in the interest rate.[22] It is evidently this short-run investment function which Klein and many others in the Keynesian school have had in mind. It is, however, of no use in an interpretation of Keynes' system of comparative statics, if the reasoning given in previous parts of this paper is correct.

Consideration in a static way of the *liquidity function* $M_2(R)$ which is the inverse of the interest function $R(M_2)$, used in our representation of the Keynesian system, leads to even more important consequences for the formulation of the system. The reason why economic subjects keep speculation balances despite the loss of interest connected with them, is of course that they feel uncertain about the future level of interest, and therefore reckon on the possibility of a rise in the interest rate which to a greater or lesser extent lowers the capital value of bonds and other fixed interest securities. The smaller this uncertainty is, the smaller the balances become as the owners of capital invest in interest-bearing securities. During such equilibrium processes as are discussed here, the risk of a rise in the interest level seems relatively small, even if it is perhaps judged as somewhat greater at low than at high interest levels. Speculation balances are therefore relatively small and the liquidity function $M_2(R)$ becomes extremely inelastic. Under strictly static assumptions when the conditions are assumed to be permanent or correctly anticipated, speculation balances disappear completely.[23] With them we have lost the foundation for the determination of the interest level which Keynes uses in his system.[24]

It may be of interest to examine somewhat more closely how the Keynesian system of equations (as it has been presented here) will

22. Cf. above p. 11.

23. Keynes himself has clearly realized this fact and its consequences for the theory of money as is shown in the following important passage in *General Theory*, p. 208-09: "In a static society or in a society in which for any other reason no one feels any uncertainty about the future rates of interest, the liquidity function L_2, or the propensity to hoard (as we might term it), will always be zero in equilibrium. Hence in equilibrium $M_2 = O$ and $M = M_1$; so that any change in M will cause the rate of interest to fluctuate until income reaches a level at which the change in M_1 is equal to the supposed change in M. Now $M_1V = Y$, where V is the income-velocity of money as defined above and Y is the aggregate income. Thus, if it is practicable to measure the quantity, O, and the price, P, of current output, we have $Y = OP$; which is much the same as the Quantity Theory of Money in its traditional form."

24. As speculation balances on our assumptions form a relatively small fraction of the total volume of money, when either the level of interest is high or low, they are not very important for the determination of general equilibrium. It seems reasonable in the following to carry through the simplification of the system made possible by disregarding these balances despite the fact that we do not here assume perfect foresight.

appear after the above-mentioned modifications, justified from the long-run point of view, have been made:

$$I = I(R) \quad (2)$$
$$S = I \quad (3)$$
$$Y = Y(S) \quad (4)$$
$$N = N(Y) \quad (5)$$
$$W = W(N) \quad (6)$$
$$W = W^* \quad (11)$$
$$M = M(Y) \quad (7a)$$
$$PM = \overline{M}^* \quad (9)$$

The system has been reduced by two equations but as two variables (M_1 and M_2) have disappeared, the number of equations is nevertheless still equal to the number of unknowns and the system is therefore solvable. It has, however, undergone two essential changes, disregarding the fact that the investment function I(R) is here assumed to be more elastic than what is usually assumed in the Keynesian school.

Firstly, the actual volume of money ($\overline{M}^*$) has only one function —it determines (together with other factors) the height of the price level. Disregarding the absolute level of prices, we can exclude the last two equations. The remaining six are sufficient to determine the real system.

Secondly, the interest rate in this real system appears as the variable which, via investment, will satisfy the whole system. Therefore it seems suitable to replace the function I(R) by the inverse function R(I) which expresses more explicitly this relation, and to reformulate the whole system in accordance with it. We can in this connection either assume that real wages are given (W^*) which corresponds to the formulation of the system mentioned before (alternative I) or instead regard employment as given (N^*) and assume that workers accept the highest real wage which is in accordance with this employment (alternative II).

The real system can, however, be varied also in other ways. We can thus let interest be a parameter (R^*) determined automatically by the monetary authorities. To avoid the system being over-determined both employment and real wages must then have the character of variables which adjust themselves to the given level of interest (alternative III). The simplified variant of this alternative in which the interest rate is disregarded and investment is assumed to be determined by exogenous factors (e.g the budget policy of the government) is often used to clarify the most essential relations in the system.[25]

Three alternative formulations of the real system are thus possible, as follows:

25. The first three equations in the system denoted as alternative III can then be replaced by an equation of the following type: $Y = C(Y) + I^*$.

I	II	III
$R = R(I)$	$R = R(I)$	$I = I(R^*)$
$I = S$	$I = S$	$S = I$
$S = S(Y)$	$S = S(Y)$	$Y = Y(S)$
$Y = Y(N)$	$Y = Y(N^*)$	$N = N(Y)$
$N = N(W^*)$	$W = W(N^*)$	$W = W(N)$

All the systems are based on long-run functions and refer to a certain type of static equilibrium (correctly anticipated developments). In the construction of these equilibria a mutual connection between the various variables is postulated; in reality the conditions for equilibria are made precise by these systems. Since different variables have been chosen for parameters in the three systems, they give answers to different questions—respectively:

(i) Which interest level makes it possible to maintain a given real wage?

(ii) Which level of interest is necessary to attain "full employment" (defined in a given way)?

(iii) What are the consequences of a given interest level for investment, income, employment and real wages? Or how can the three last-mentioned variables be determined starting from a given (annual) investment?

All the questions are of the greatest practical relevance and we can, therefore, note with satisfaction that the Keynesian system, after having obtained a consistent static form, is of considerable value as an instrument in comparative statics.[26] If some members of the Keynesian school should feel called upon to complain that the discrepancies between Keynes' system and the traditional theoretic systems have become less obvious than before,[27] they can be immediately informed that the special Keynesian features fully reappear in the more dynamic interpretation of the system to which we now proceed.

2

In the preface to the "General Theory" (p. vii) the book is characterized as a study of the forces which cause *changes* "in the scale of output and employment as a whole". According to the author's

26. If the constructions referring to M_1 and M_2 in Fig. 3 are disregarded, the diagram can also be used to illustrate the real system sketched here which we have found is in better agreement with the demands of comparative statics.

27. The system denoted as alternative II is in fact in good agreement with Wicksell's determination of the "normal rate of interest". According to Wicksell the interest rate is normal when the volume of investment induced is equal to the (voluntary) saving arising under conditions of full employment (in the sense of equilibrium in the labour market). Wicksell also argued that the market rate of interest showed a tendency to approach this normal rate, but he did not yield to the more superficial view that competition in the capital market brings about a market rate of interest corresponding to the point of intersection of the saving and investment curves, a view justly criticized by Keynes. Wicksell's brilliant innovation in this field is the introduction of the "cumulative processes"—a counterpart to the later multiplier and accelerator theories—which are generated by the discrepancies between the market rate and the normal rate of interest and which in time force the banks to adjust their rates to the normal rates. This is certainly a mechanism altogether different from the classical one and Wicksell is, therefore, not affected by Keynes' criticism.

own meaning the work seems to have a more dynamic character than the preceding work "A Treatise on Money" (1930), which gave only a snapshot of a position lacking equilibrium at a given volume of production but which did not clarify the dynamic process. Nor can it be denied that the most valuable sections of the "General Theory" consist of examinations concerning the dynamic factors in our present economic system. And Keynes' immense influence on contemporary economic thinking can hardly be fully understood unless the impulses making economic theory more dynamic which emanated from his work, are considered.

But if the most important points of the book lie in the area of dynamics, how could be then explain that its constructions are mostly of a *static* character? We have already hinted at the answer to this question. The Keynesian system can be conceived as a "static short-run system" which clarifies the balance of forces in a given position. A system of this type is static with regard to its *form*: the equations refer to an equilibrium and are, therefore, of a simultaneous character. With regard to *substance* and *purpose* the system is, however, dynamic: it clarifies the actual tendencies in a certain equilibrium and can, consequently, be used for an investigation of how a movement is generated when the equilibrium is broken; furthermore, it gives material for a building of dynamic processes and for an examination of the transition from one equilibrium to another.

An interpretation of Keynes' system in this direction probably corresponds better to his actual intentions than an interpretation of it as comparative statics. And it is not denied that the system from a formal point of view stands up better to such an interpretation since several of its fundamental assumptions are, as we have just seen, more appropriate in a short-run analysis. The system thus gives room for what is generally supposed to be Keynes' most original contributions to economic theory: the introduction of the volume of employment and, also, national income as a regulator for the establishment of equilibrium between saving and investment; the determination of the interest level with the aid of the liquidity function and the connected division of the volume of money into active and non-active balances—a good move, at least from a pedagogical point of view; and generally his determination of monetary and real magnitudes in one system.

We are not here entering upon a closer examination of the form of the system from a short-run point of view, but instead shall add some reflections concerning the application of the system.

The fact that a short-run system of this type cannot be used directly for a determination of equilibria is often overlooked. For this procedure to be correct it is necessary that the short-run and long-run

functions be identical, which hardly seems realistic. Strictly, the functions can be assumed to coincide only in the sense that they have the same value at the point of equilibrium (in other words, the forms of the functions are different but the solution is the same). We are, therefore, not permitted to postulate a mutual connection in respect to other values of variables in the short-run system. If a parameter or function should be changed, we can only measure the immediate reactions directly from the system, but for a determination of the process following and the new equilibrium, if it exists, an essential modification of the system in a dynamic direction must take place.

The endeavours which have been made so far to make the Keynesian system dynamic are generally based on the introduction of "lagged" variables into the functions. It has, for instance, been assumed that consumption during one period is a function not of income during the same period but of income during one or more preceding periods. Similar lags have been applied to the reactions of entrepreneurs and investors. The Keynesian simultaneous equations have, consequently, been replaced by difference equations, and the result is a dynamic system. This is undoubtedly a step in the right direction. The aim of theory is, of course, fundamentally to find models which can be tested by facts and these models must contain a determination of the relation between magnitudes during various periods.

It can, however, be questioned whether the system displayed in the "General Theory" with its static formulation and its limitation to *ex-post* magnitudes is the best base for making economic theory dynamic. In the beginning of the work Keynes introduces a distinction between "aggregate demand" and "aggregate supply", but the concepts are unfortunately not rigidly defined and are not of much use in the building of the system. If Keynes had exploited this idea in a more consistent way, he would probably have had greater understanding of such concepts as purchasing plans and sales expectations and, on the whole, of the system of concepts—including *ex-ante* and *ex-post* magnitudes as well as the differences between them—which are worked with in Swedish theory. Even the members of the Keynesian school have not been able to avoid completely the distinction between *ex-ante* and *ex-post* in their treatment of dynamic problems, but there is still a certain distrust against the more differentiated forms of the Swedish system of concepts.[28] This has unfavourable consequences for the con-

28. It is, however, to be regretted that one of America's leading economists, the Harvard Professor Alvin H. Hansen, has gone to the extreme (in the essay "The Robertsonian and Swedish Systems of Period Analysis", first published in the *Review of Economics and Statistics* (1950) and later reprinted in *Business Cycles and National Income* (1951)) of rejecting completely the Swedish *ex-ante ex-post* analysis ("based on the divergence of planned saving and planned investment") at the same time as he applies similar distinctions ("desired/designed/saving" and "intended investment" on one hand and "actual/realised/saving and investment" on the other). It would carry us too far to reply to this criticism, which contains a confusing mixture of true and false reasoning and assertions. We shall only underline the fact that Professor Hansen has not penetrated the Swedish lines of thought—he refers only to Professor Ohlin's well-known articles in the *Economic Journal* (1937) and has misunderstood Ohlin on important points, and therefore his criticism lacks relevance.

tinued work on the theory as well as for the representation of its elements in a popular form.[29]

As a matter of fact Keynes had already in his "Treatise on Money" been working in this direction. The system given here was dynamic in its character—as has just been suggested, it treated positions lacking equilibrium—and in that respect it was more general than the system in the "General Theory". No fundamental difficulties

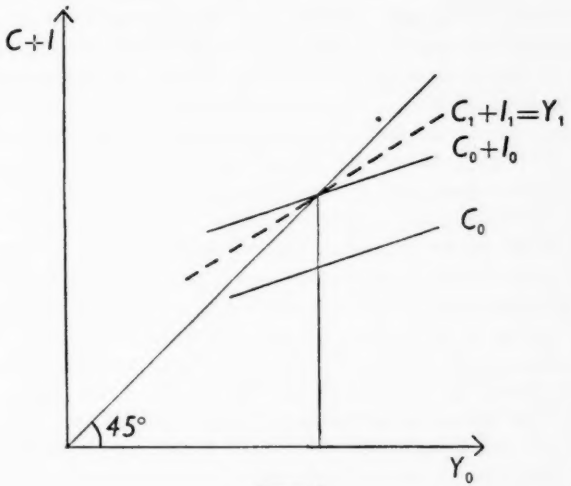

FIGURE 6

are met with in widening a system of the former type to comprise both equilibria and dynamic processes, while the making of a static system dynamic actually implies that we pass to a new system. The equations in the former system were characterized by some shortcomings which during the former part of the 1930's greatly puzzled

29. In many text-books a figure similar to the one below (apart from the broken line) is used to explain the Keynesian equilibrium. The abscissa is usually taken to represent national income and the ordinate the sum of consumption and investment. This figure is, however, not satisfactory in the discussion of non-equilibrium positions. If it is possible for the (C+I) line to deviate from the 45° line, it is necessary to interpret C and I as *ex-ante* magnitudes. The *ex-ante* magnitude C+I during one period cannot, however, be a function of the *ex-post* magnitude Y for the same period. But a more reasonable interpretation of the figure can be given if also the abscissa variable is interpreted as an *ex-ante* magnitude, i.e. as expected income. In the area to the left of the point of intersection, where C_0+I_0 exceeds Y_0, total sales of goods and services will be greater than the expectations of the sellers, which results in, on one hand, a certain disinvestment (a decrease in stocks) and, on the other hand, a certain income gain. To the right of the point of intersection the opposite condition prevails: the expectations of the sellers are not fulfilled, and unintended increases in stock and income losses are made. The realized income (Y_1), which is represented on the figure by a broken line, will, therefore, in the former case lie above and in the latter case lie below the 45° line which represents expected income (Y_0). (The Y_1 line would coincide with the Y_0 line, if the divergences between realized and expected sales influenced only stocks and not income. In the opposite extreme, when the divergences in equations influence only income but not stocks, the Y_1 line would coincide with the (C_0+I_0) line.) Already this simple application of the distinction between *ex-ante* and *ex-post* variables make clear its usefulness in the analysis of realistic cases which, as a rule, lie on one or the other side of the point of intersection.

economists. Keynes solved the problems by a Gordian method: he wrote a new book with new equations, this time of a static character. The economists of the world immediately proceeded to discuss the new equations, which also had, as is well known, their weak points, and they are still discussing them. Because of important public duties during the last years of his life and of a premature death, Keynes never got the opportunity of writing a third book in which he could have remedied the short-comings of the first more general system—which does not seem very difficult from the point of view of Swedish theory—and also put into this the valuable features of the latter system. It should be an important duty for his followers to produce this work and, at the same time, put Keynes' creative contributions to economic theory in relation to the theoretical work of other schools.

It will then probably appear—at least this examination points in that direction—that Keynes' contributions as a builder of systems have been somewhat over-valued in relation to his contributions as an analyst. If the famous system of the "General Theory" is interpreted as comparative statics, it hardly appears as an essentially new creation, compared with previous systems, and if it is interpreted as a short-run balance system, it demands a dynamic complement to be of any use for economic analysis. More valuable than these systematical parts of the works are the author's thorough examinations of the factors which determine the interplay of economic forces. Keynes' greatness as an economist is, among other things, shown by the fact that he himself was not bound to his own systems and did not as a rule let the short-comings in their logical structure influence his judgment of the economic problems of the day. If we read, e.g. the little book *How to Pay for the War* (1940), in which Keynes put forward his programme for a solution of war-time financial problems, we are struck by its fresh approach; quite independent of his previous static constructions the author has here applied dynamic methods which are appropriate for this task.

In another respect also some revaluation of Keynes' theoretical contributions seems possible. What is often considered as his most important contribution to economic theory, i.e. his stressing of the fact that saving and investment are not automatically brought into equilibrium, did not, at least in Sweden, appear as a novelty in any other respect than that Keynes especially underlined the part of employment as an equalizing factor. The fundamental idea can, however, be traced to Knut Wicksell and perhaps also to other earlier economists, which is now probably recognized also in the Keynesian school. As a matter of fact, the Swedish discussion of these problems had advanced comparatively far already in the beginning of the 1930's and, what is even more important, this economic theory had,

after the change of government in 1932, when Ernst Wigforss became Minister of Finance, a decisive influence on economic policy.

But even if the value of Keynes' systematical work and the novelty of his fundamental ideas are somewhat reduced, this does not much influence the appraisal of him as the leading economist of his time. Keynes had to a degree not often seen the qualities which are necessary in a good economist: constructive imagination joined with a strong sense of reality. With his rich intellectual endowment and the power of his fascinating personality, he could catch the interest of a whole generation of economists and give them new perspectives on economic problems.

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NOTES ON THE AUSTRALIAN CAPITAL MARKET, 1946-53

The task to be performed by a capital market is complex and difficult. It demands the development to a high standard of a considerable number of techniques, institutions and organizations. No capital market in existence of course is perfect; but there are very few which could even be described as good. Such a mature and highly developed country as France, for instance, has never had a satisfactory capital market; the industrial side of it has always been weak, and the equipment and organization of French industry have suffered in consequence. The absence of an effective capital market has been a serious obstacle to the recovery of Western Germany in the past few years.

That the Australian market can be criticized is therefore not surprising. Moreover it is much easier to point out the faults in any bit of economic apparatus than it is to explain the virtues of the smoothly working parts; in so far as the faults are remediable it is perhaps more useful too. These then are critical notes, not an overall assessment.

1

A substantial volume of funds is flowing through the market in Australia. This includes a large amount apparently coming direct from the savings of private individuals which is noteworthy in contrast to the position in Britain in the past few years. Financial institutions do not, therefore, dominate the market here to the extent that they do in Britain and in the United States. They play an important part as underwriters of new issues, as purchasers of securities and in the provision of loans. But the market in industrial securities is largely a private investors' market; dealing usually takes place in lots such as are convenient for the private investor; the sale or purchase of a large block of shares such as £10,000 worth—a convenient unit of investment for a big insurance company—may be difficult for the market to absorb without a substantial movement in the price of the shares.

The most striking feature of industrial financing has been the preponderance of ordinary share issues. The great majority of these shares have been issued to existing shareholders on such terms as to ensure that the market price of the new shares is significantly higher than the price of issue. By comparison, before the recession of 1952, the volume of fixed interest industrial issues—preference, debentures and notes—was quite small.

That large sums could be raised by such ordinary share issues is welcome evidence of availability of risk capital. In an economy

such as the Australian, subject to big cyclical fluctuations due to the variability of export income, the dangers of too much debt are obvious. Most Australian industrial companies had not attained that size and record of profitability over a period of slump as well as of prosperity desirable for the issuer of substantial long-term debt. Many of the big American corporations on the other hand, which were relying so heavily on bond financing during these years, could point to satisfactory earning capacity even in the depression of the 1930s. Big expansions of public utilities were also taking place in Australia and making heavy demands on the bond market; so official policy discouraged industrial competition with these semi-governmental public utility issues.

There are disadvantages, however, in such concentration on rights issue financing and, by 1950, with a spate of such issues they became obvious. In an inflationary boom period a capital market is never as successful in preventing funds from flowing into inefficient ventures as at other times; indeed, such maldistribution of resources is one of the main evils of inflation. This is not righted by capital issues control: indeed it may be aggravated. For such control must operate mainly by industrial categories. By eliminating firms in industries deemed inessential capital issues control makes it easier for the inefficient firm in an essential industry to obtain funds.

By 1950 the share market price structure was particularly open to criticism. It had become the general practice to increase dividends, not so often directly by raising the nominal rate, as indirectly by maintaining the nominal rate after making a bonus issue, or a rights issue on "favourable" terms. Naturally most companies only did this every few years; so, instead of dividends increasing more or less steadily each year with earnings, they went up in fits and starts; a period of stability, then a big increase. So the normal comparability of dividend yields for securities of similar status was much impaired. The accounts of many companies were not sufficiently informative to enable reliable estimates of earnings and earnings yields to be made by the average investor. With neither dividend yield nor earnings yield offering much guidance market prices were too liable to be swayed by hopes or rumours of rights or bonus issues. This gave ample scope to the speculator with inside knowledge. A company which encouraged such hopes might well see its shares stand high enough to enable it to expand by a rights issue, though neither its past record nor the real prospects for its expansion were such as to justify it. Easy money from rights issues was used to bid up prices of labour and materials and to finance speculative stock piling. Such a market discouraged the careful choice of shares in companies with good records operating in branches of industry or trade with favourable prospects of expan-

sion—the most valuable type of share buying. Short-term speculation for quick capital gains appeared easier and more attractive; the calibre of the investing public suffered.

It is too soon to judge how serious a maldistribution of capital occurred. For a thorough shake-out of the inefficient in the subsequent recession was prevented by the imposition of import quotas and by liberal credit policies made possible by big releases from special accounts by the Commonwealth Bank. It is probable that the high rate of expansion of the economy as a whole will take care of much of the over-expansion in particular lines that occurred, and that absorption or amalgamation rather than the painful processes of liquidation will be the good fortune of most of the sub-standard firms. Whether such pleasant conditions are conducive to first-class management must be a matter of opinion. It can be argued that the sharper shake-outs of the American economy are an integral part of the competitive process in which few inefficient managements survive for long; that the rapid rate of innovation in nineteenth century Britain was connected with the frequent liquidations and reconstructions of firms. On the other hand it may be that now it is possible to have progress without tears.

The minor recession of 1952 was sufficient to take the froth off the share market. In 1953, although its dividend yield basis for equities looked low by British or American standards, and yields on published earnings even lower, relative share prices did show a consistent pattern. It was therefore much easier than in 1950 to judge the merits of shares as long-term investments.

2

But more accurate information was still needed to improve the market. It is obvious that a capital market can only be as good as the information of the investing public whose funds flow through it. If that information is faulty or defective funds will be misdirected.

The main source of information is published company accounts. In spite of great improvements over the past decade there is still urgent need for further progress in raising the minimum standard. Some companies now publish excellent accounts showing clearly their operating profits, charges and appropriations, and a detailed classification of balance sheet items, so that it is possible to judge, not only how net profits have varied, but also the sources of funds used for financing the changes of assets that have occurred. But many others, including unfortunately many of the largest and best known public companies, produce accounts that conceal much important information from their shareholders and the public. In New South Wales consolidated accounts are often lacking, so that neither the profits of the

group nor the true balance sheet position can be ascertained. In Victoria similar obscurity can be achieved by the investment of the funds of the parent company in underlying companies which are not legally subsidiaries because ownership is shared with other interests. In a balance sheet an omnibus item such as "contingency reserve, liabilities to creditors and for taxation" is all too frequent. Appropriations to reserves of one sort or another often seem to be made before arriving at the shown profit figure, so that the true rate of earnings is not disclosed. It is simply not possible in such cases to put together successive balance sheets and profit and loss accounts to present an accurate description of how assets have grown, and how this growth has been financed. Yet without this information shareholders and other investors are very much in the dark.

The best accountancy practice is always ahead of legal minimum standards, and there is room for some variation in methods of presentation of accounts of different types of enterprise. But it is important that there should be a minimum legal standard high enough to ensure that the basic information is made available clearly. It would also seem desirable that one standard should obtain throughout Australia.

When more accurate information on assets and earnings is available it will be much easier to remedy the current over-emphasis on nominal capital and the distorted arguments that spring from comparison of profits with nominal capital. An important step forward in this direction would be the legalization of "no par value" shares (which of course are common in U.S.A.) as recommended recently by the Gedge Committee in Britain. It is evident from that report that much of the opposition to such a step comes from those who have a vested interest in the misrepresentation of capitalism. When it is no longer possible to use nominal capital in some cases it is to be hoped that it will be misused less often in others.

At present not only are the ignorant deceived by figures of profit on nominal capital, but many of the more informed are apt to slip into error when using tables of profit on shareholders' funds such as those published by the Commonwealth Bank. For shareholders' funds in 1953 mean something very different from shareholders' funds in 1946, because, unless a revaluation of assets has taken place, that section of them represented by fixed assets will be grossly undervalued; in consequence the total of shareholders' funds in such a year as 1953, after a period of inflation, will be very much less than the real value of the assets of the business after subtraction of all liabilities —and that is the meaning many of us tend to attach to the phrases "Shareholders' Funds" or "Net Worth". If the rate of profit earned by a company on the real value of its assets remains constant, while

shareholders' funds, as inflation continues, fall further and further short of the real value of assets, the profit rate will of course rise as a percentage of shareholders' funds. When, as appears to have happened here over the period since the war, the rate of profit remains roughly the same for many companies when expressed as a percentage of shareholders' funds, one can only presume that as a percentage of the real value of assets it is falling steadily to a very low level indeed; or that the trend of published profits figures is misleading, and that in fact companies are putting more and more to hidden reserves each year before striking their figure of profits for publication. Which of these guesses is nearer the truth is a matter of some importance for public policy; so it is to be hoped that further information will soon be made available. Such information could come either from company reports conforming to much stricter standards, or from publication of a careful analysis of the financial position of companies based on tax returns, as is done regularly in the United States.

Several of the weaknesses of the capital market are interconnected. Thus the inadequacy of the information supplied by companies as to their real profits leads to shares being valued too much on a dividend yield basis. This has several consequences—all of them unfortunate. One is that it contributes to the illusion that a bonus issue is a pure capital gain, and that a rights issue on "favourable terms" is the cause of a substantial capital gain; for it enables a company to produce a big rise in the market value of its shares by making a bonus or rights issue and increasing the amount paid out in dividends (i.e. indirectly increasing the rate of dividend). This can happen in a year in which there has been no increase in the profits earned by the company.

Another consequence is that brokers cannot build up the skilled critical appraisal service expected of a first-class broker in London or New York. For, although several of the leading Australian brokers provide a substantial amount of advisory material for their clients, this contains little of the detailed comparisons of earnings, appropriations and assets due to the inadequacy of company accounts. This has the effect in particular of inhibiting criticism of shares which are over-priced, or companies indulging in reckless financing; for one has to have a reasonably complete picture before making such criticisms. Yet this sort of critical comparison by skilled professional advisers and investors, and by financial journalists, plays an important part in maintaining high standards in any market, and in preventing funds flowing into unsound or reckless enterprises.

Again dividend yield valuation gives too much scope for speculation based on the outcome of meetings of boards of directors discussing dividend policy; it gives the insider too great an advantage over

the average investor; it makes it difficult for an informed investing public to be built up.

Most of these criticisms could be generalized by saying that a capital market will only direct funds into those uses in which the marginal efficiency of capital is highest, if, inter alia, share prices reflect the profits and prospects of profits of different companies; the market must know past profits in order to judge future prospects.

Many other parties are of course concerned with the standard of public knowledge. The press does much to inform as well as to express opinion in this as in other matters. The *Financial Review* is a welcome example of the influence that can be exercised. The responsible daily papers loyally refrain from the "tip the winner" techniques so liable to cause the worst type of speculation and fraud. But they could do more to build up an informed public opinion if they would devote more space on their financial pages to recording and commenting on economic events of significance for investors; if this were to involve rather less prominence for the day to day fluctuations in share values that might do no harm. The "City Notes" of the London *Times*, which take precedence over the daily stock exchange reports, are a good example.

The importance of the part played by accountants in making possible the mobilization of capital for large-scale projects is apt to be forgotten, as is the debt due to them for the high standards of commercial honesty so often taken for granted. On them must fall much of the responsibility of further progress towards the goal of making Australian company reports as full and clear, as detailed and yet as well summarized as those of the best reports in the United States.

3

As a capital market grows there is room for specialization. A recent example of this is the development of the issuing house in Australia. That brokers should combine issuing with their other functions in a small capital market is natural. Many continue to do so in London and they dominate most of the other British stock exchanges as until recently they did those in Australia. But when a capital market becomes larger there is a strong case to be made for the independent issuing house or investment banker.

The job of the issuing house is to arrange the provision of long-term capital for its clients, borrowing firms. It must advise them when and how to raise capital and make the necessary arrangements for new issues. Its reputation—its most valuable asset—depends upon the success of these firms, not just in the first year or two after an issue, but over a long period of years. It must therefore show great skill in the selection of its clients in the first place, as well as developing the

necessary contacts with sub-underwriting institutions and brokers for making issues. This is a substantial task and one rather different from that of the broker, requiring a different perspective, or horizon, and with different and possibly conflicting loyalties involved. For the broker has obligations to his clients, those for whom he acts as agent in buying and selling their shares. For many of them he acts as investment adviser as well as agent. Thus when he makes an issue he is acting for the seller of the shares and also as adviser to many prospective buyers; this is an invidious position open to abuse. That so few bad issues have been made on Australian stock exchanges is a tribute to the high standards of skill and honesty of the issuing brokers; but it ought not to be treated as a conclusive argument for discouraging the entry of independent issuing houses as the market expands. Brokers suffer from the disadvantage that they are so intimately concerned with short-term fluctuations in share prices and in economic conditions that they are not in a good position to take a long view. Their horizon is apt to be limited, or at least in their perspective the foreground is in bold relief and future years in a rather hazy background. An independent issuing house is in a better position to judge the long-term prospects of a business and the form of capital structure most appropriate.

There are advantages too in stockbroking without issuing. An issuing broker can supply his clients with a succession of prospectuses many of which will be of companies new to the stock exchange and offering higher yields than the shares of companies more widely known. For clients with additional funds to invest, who are willing to run the risks involved in these types of securities, this is a valuable service. But the issuing broker has an interest in promoting the sales of new securities rather than old ones. Some investors, therefore, prefer to be advised by brokers who are more willing to point out the defects as well as the attractions of a new issue compared to old shares of a similar category, and to devote more time to comparative study of the relative merits of various old shares.

In London before 1914 there was a marked contrast, noted by Lavington and the Macmillan Committee among others, between the machinery for issuing foreign bonds and that for home industrial share issues. That for foreign bonds was provided by issuing houses and was good; for home share issues there were few issuing houses and it was bad. The great improvement in the home industrial new issue market in the past 25 years has coincided with the entry of issuing houses into that field.

Rather similar considerations obtain when the relations of a broking firm to the management of investment companies are considered. In a small market brokers are among the very few with the

necessary knowledge and expertise to launch investment companies. As a market grows and investment companies with it, managements independent of brokers should be better placed to judge between the long-term prospects of different shares, new and old.

4

That since the war insurance companies have been buying substantial amounts of industrial securities is a welcome development. Such large sums accrue to them each year that for a balanced development of the economy it is desirable that they should be used to finance industrial development as well as government public works programmes, primary production, and private house-building. From the technical point of view this is welcome because more skilled professional investors are thus coming into the industrial market.

Any progressive economy which imposes steeply graduated taxation to reduce inequalities of income and wealth must run some risk of a shortage of risk capital. The progress of financial institutions, which, by pooling of funds and spreading of risks, enable the savings of the lower income groups to be used indirectly for the finance of industrial investment, is therefore of peculiar importance.

For similar reasons the growth of the investment trust movement here is welcome; moreover, they can introduce many savers to equity investment. But there are some dangers. Fixed unit trusts are bound to create a slightly false market in the shares of the underlying industrial securities purchased; if a wave of selling by sub-unit holders were to develop at a time of liquidity crisis, this would produce great pressure on the managers of the fixed trusts to sell the underlying securities; this pressure would be concentrated on a fixed short list of securities. It can be argued that it is the job of the authorities to prevent a liquidity crisis if possible, and, if not, to help out all that are caught in it. But that surely is not all there is to be said. The authorities must try to prevent practices which will so aggravate a period of financial stringency as to run the risk of it developing into a crisis. For this reason a review of the resources of the fixed trusts in relation to their contingent liabilities might be a wise precaution.

Flexible unit trusts are preferable for several reasons. They are not so apt to create a false market; they do conform to one of the basic principles of equity investment that a good portfolio must be a gradually changing one. Of course, more management is involved and must be paid for. But the management involved in changing such a portfolio really demands less skill than the selection of a list of securities for a fixed trust to remain unchanged for 15 years.

However, the most important contribution to the financing of industrial development can probably be made by managed investment

trusts or investment companies. For while any unit trust, fixed or flexible, is bound to buy mainly the shares of well established and well known companies, a managed trust can also buy shares of smaller companies at the time of their introduction to the market or later, and so can facilitate the growth of such companies. It can also build up its resources by ploughing back profits and can enjoy an indefinitely long life.

It is sometimes objected that whereas the holder of a sub-unit of a fixed or flexible trust can always surrender it and receive the cash value of the underlying securities less expenses, the shareholders in a managed investment company can never be sure of receiving the corresponding market value of the underlying securities when he sells his share; this is said to be unfair. But this is a misunderstanding. The market value of the shares of a managed investment company may certainly be lower than those of the securities held by that company. This may be due to the fact that the shares of the investment trust are less marketable, or less popular, than those of the companies it has invested in; or because the investment trust directors are not distributing a large proportion of its income in dividends, and market values are largely determined by dividend yields. In such circumstances the purchaser or holder of the investment trust shares is obtaining a spread of risk at some sacrifice of marketability, and a large earnings yield, though probably a low dividend yield. For many long-term investors that will be attractive. Unit trust sub-units offer full distribution of income and easy realization. The two should appeal to different types of investors, as do long-dated and short-dated government securities. Indeed some complaints from shareholders in managed trusts, who have had to realize at a loss, are very similar to those from holders of long-dated government securities who suffered in the same way when interest rates rose; many of both classes had in fact chosen the wrong securities for their particular purposes.

So far the progress of the managed trust movement has been disappointing when judged by Scottish standards. For this several reasons can be suggested: Australian industry in general has apparently given a poor return to the ordinary shareholder over the past 20 years as compared with the British and American industrial companies in which the Scottish investment trusts have invested much of their resources; the Australian trusts had an unfortunate start in that the slump of 1931 hit the first of them before some had found their feet; this is probably one reason why little progress has since been made in Sydney in particular.

The yield on industrial fixed interest securities — preference shares, debentures and notes — is high here compared with that on first-class industrial ordinary shares. To what extent this is a passing

phase due to inflation, or a reflection of a long-term preference on the part of the investing public for equities, it is not possible to say. But it is awkward for investment companies. For British ones can issue their own fixed interest securities to the public on terms which enable them to invest the proceeds in good equities at a higher immediate yield. This was true even before their reputation became such that their prior charges obtained a higher investment rating than those of most industrial companies, and so could be issued more cheaply. Australian investment companies, however, if they were to issue fixed interest securities, might well find difficulty in earning immediately on the proceeds, invested in industrial ordinary shares, as much as the interest on their own prior charges. (In time the earnings should rise as the underlying industrial companies raise their dividends.) This probably is one reason why the opportunities for gearing their own capital structures, which have played such a large part in the success of the Scottish investment trusts, have not been exploited in Australia. Others are natural caution by managements investing in a field subject to large fluctuations in profits, and the youth of the movement.

In common with so many industrial companies here the investment trusts have relied on issues to shareholders on "favourable" terms for most of their growth. The leading ones have retained a substantial proportion of their profits—25% in several cases over the past decade; but the effect of this has in many cases been swamped by a succession of rights issues, so that the proportion of their present funds contributed by undistributed profits is very small. Now whereas growth out of undistributed profits means that funds are available each year for the purchase of additional shares, and advantage can be taken of favourable opportunities when share prices are low, rights issues are normally made in prosperous years when the shares of industrial companies as well as those of the investment trusts themselves stand at high prices. Thus trusts expanding by rights issues receive funds at times unlikely to prove the right ones for investment; because dividends must be earned on their new shares it is difficult for the management to keep any large proportion of the new money in cash, or even in low yielding bonds, and wait for a better time to buy equities.

Recently a succession of small rights issues have been made by the Capel Court group to absorb the current savings of the small investor and to provide a steady flow of funds for the purchase of securities by the investment companies. This achieves a similar result to financing out of undistributed profits, and gives a wider freedom of choice to the individual shareholder. But it remains to be seen whether such a policy can be continued through a severe recession.

A steady accretion of funds to an investment company is valuable, not only from its own point of view, but also because it enables it to play an important part in widening markets, cushioning sudden declines and moderating steep rises in prices. When they rely heavily on rights issues made in prosperous years they aggravate instead of reducing the bunching of industrial issues in boom periods.

5

The attitude of successive post-war governments to the industrial section of the capital market seems to be open to criticism. A great deal of emphasis has been placed on the success of government and semi-government bond issues, and on the terms on which such issues have to be made. The successful flotation of such issues has been described as an important part of the struggle against inflation. It has apparently been thought proper for the Capital Issues Committee to influence the interest rates at which industrial companies borrow on the capital market on fixed interest terms, indeed sometimes to peg these rates, in order to facilitate government borrowing. This is a different and additional form of capital issues control to the prohibition of issues for certain purposes deemed non-essential which was practised in Britain as well as in this country.

It would be generally agreed that in the years since the war it has been desirable to encourage private saving, and to discourage some private investment, in order to enable large public investment programmes to be carried out with as little inflation as possible. If pushed to extremes such a policy could suspend or destroy the mechanism of the capital market—in war-time Britain much of that mechanism was suspended—and that, too, might be generally agreed to be undesirable in time of peace. Between these two extremes there is room for differences of opinion on the importance of the gains and losses involved in alternative policies.

The main element in the real cost of any public investment programme is, of course, measured by the value of what the factors of production engaged thereon would have produced in the most attractive alternative use. If we assume for simplicity that this alternative use would have been private industrial investment, then this real cost is measured by the rate of return that these factors would have achieved there. In the post-war period this rate of return was certainly high.

This real cost cannot be reduced by any form of cheap money policy or rationing of investment projects; it can only be concealed. Such concealment is dangerous; because it is easy to slip into the error of comparing the rate of return achieved by, or expected from, a publicly sponsored investment programme with the artificially low

interest rate at which in cheap money conditions borrowing is carried out to finance it, and claiming that this shows it to be economic, or worth while. Indeed one important criticism of any policy of rationing investment projects is that it disguises or obliterates a useful yardstick.

What cheap money and rationing can do, of course, is to reduce the interest charges on public loans and so the transfer burden involved in servicing them. That is one gain from the various measures of discrimination and publicity to boost public loan issues. It is not easily measurable.

The other advantages are even more difficult to assess; for they come under the heading "prevention of inflation", and depend upon many assumptions about what might have been, and on the responses of various groups in different situations. In this connection the key factor is the rate of saving and dissaving by the public. Publicity or other devices to induce the public to subscribe for government bonds may affect either the amount of present saving, or the likelihood of dissaving in the future, or both. Present saving is increased if bonds are bought with funds that would otherwise have been devoted to consumption or investment expenditure. Future dissaving is affected if the public buy government bonds now with funds which otherwise they would have kept in some liquid form, such as a current account at a bank, and if at some future date the fact that funds are held in government bonds instead of in a bank account induces the owners to refrain from using them for expenditure on consumption or investment goods. This will be more likely to happen if government bond prices are allowed to fluctuate. If they are pegged by official support and the expectation is created that such support will be continued indefinitely, government bonds become almost a perfect substitute for cash, and holders are unlikely to be deterred to any extent from dissaving by the fact that part or all of their wealth is held in government securities and not in cash.

The task of the monetary authorities in preventing inflation and deflation may be facilitated if the public subscribe for government securities directly. But this, too, depends on the assumption that the actions of the public in the future will be more predictable if they hold government securities, which are not a perfect cash substitute, instead of cash. An awkward situation may arise if many members of the public, induced to subscribe for government bonds under the misapprehension that "security of capital" in the advertisement means that they will be able to sell their bonds at any time for as much as they paid for them, raise an outcry when their bonds fall below the price of issue; and produce political pressure for a pegged bond price to enable them to turn their bonds into cash without loss, at a time when the monetary authorities are trying to restrain inflation.

Such appear to be some of the chief gains and the qualifications to them from an aggressive policy of direct selling of the largest possible volume of government securities to the public. On the other side it could be argued that the policy of low interest rates followed in the first years after the war here as elsewhere made the control of inflation more difficult. But this is now a familiar topic; so attention will be given instead to a question which has not been discussed so thoroughly: "What damage may be done to the long-term growth of a capital market by some of the tactics incidental to an aggressive policy of government bond sales?" Three of such tactics will be discussed:

1. The freezing of rates of interest on preference and debenture issues by the capital issues control mentioned above.
2. The practice of retaining over-subscriptions to government loans, and of allowing advance subscriptions to be made.
3. The use of moral suasion to induce insurance companies and other large investors to buy or retain government securities.

Of these the interference with the terms of industrial borrowing is probably the most serious. In all large capitalist industrial economies long-term debt and fixed interest securities are an important part of the financial structure. Bonds and preference shares must reflect the risks involved in each case. If one bond rate is fixed it will probably be higher than some of the strongest companies need pay, so they will try to make other arrangements; it will certainly be lower than many risky enterprises would have to offer to obtain funds; so they will not succeed in getting any long-term capital on fixed interest terms, and will probably be driven to the unsound expedient of using short-term borrowing to finance fixed investment.

As suggested earlier, the Australian capital market has lagged in the development of a substantial volume of industrial bond or debenture financing, so this obstruction is particularly unfortunate. That it has not aroused more protest is probably due to the fact that the damage is not all immediate. For in spite of this and other measures to facilitate public borrowing at the expense of private industry, industrial borrowers have not been starved of funds; on the contrary money has probably been too easy to obtain. What has happened is that the long-term growth of the market has been impeded and distorted.

It must be stressed that these years since the war have been a period of exceptional prosperity. High prices for exports have made possible a rapid increase in real income, a high rate of investment and a high level of personal saving. In such circumstances the finance of industry and trade is bound to be easy. But in the past such periods

of prosperity have been followed by checks and reverses; checks at least, due to bad seasons or lower export prices, may reasonably be expected in the future. Such a check will test the structure of the capital market. If experience elsewhere can be relied on the issue of further ordinary shares will be difficult and the volume of industrial financing possible by this method will be small. It will be on issuing shares, debentures or notes on fixed interest terms that sound companies will have to rely for the finance of their long-term expansion plans. Raising funds at such a time is never easy. It will be considerably more difficult, and may even prove impossible in some cases, if advantage is not taken of years of prosperity to develop and foster the habit of long-term industrial borrowing on the market and the emergence of a pattern of rates reflecting the status of the borrowers. Many people are involved in this process and it is bound to be slow. Directors of industrial companies must shed prejudices against "being in debt" and "having a charge over their assets which will destroy their credit standing", and learn to calculate the advantages of a geared capital structure, and the degree of gearing prudent for their particular business. Issuing brokers and issuing houses must help in this process, and those that have hitherto confined most of their attention to ordinary shares must get in touch with and learn the tastes of that rather different class of investor, who is concerned with security of capital and income in money terms. This class itself will grow; pension funds and insurance companies will probably bulk large in it and also trustees, individual and corporate.

By retaining over-subscriptions to loans and permitting advance subscriptions, investors are encouraged to subscribe for new loans direct instead of buying government securities on the market. This reduces the volume of business in the market and the width of that market. The very success of the publicity campaigns to encourage individuals in each country district as well as in the metropolitan centres to subscribe for bonds has produced a situation that many hold bonds who have never bought or sold any on the market; the market is much narrower than the volume of government and semi-government bonds outstanding would lead one to expect.

Just as a marketable security is more attractive than a non-marketable one, and the provision of marketable securities has been of great importance in enabling governments and industrial companies to draw on the savings of individuals, so widening the market should be regarded as an important objective of policy. It is indeed sufficiently important to deserve precedence over the conflicting aim of squeezing the maximum amount out of subscriptions to the current government loan, which is achieved by the advance subscription privilege and retention of over-subscriptions.

Prices are always apt to move erratically and in jumps in a narrow market, to the disadvantage of the bond seller who has to sell and of the uninformed buyer. Such fluctuations can be reduced in the government bond market by the intervention of the monetary authorities. But unless they go to the extreme of pegging prices, which is most undesirable for other reasons, some disadvantages remain. Moreover, there are some peculiar disadvantages in a narrow market for government securities. For ideally the monetary authorities should be free to operate in that market in pusuit of their primary duty to control the levels of credit, prices and activity in the economy. Such open market operations operate smoothly on a wide market; on a narrow one they produce sudden changes in the prices of particular issues. If the market is naturally so narrow that it has to be supported or "made" by the authorities for much of the time, this will seriously limit the scope for open market operations.

Exhortations to buy or to hold government securities are bad in general because they contribute to the distortion of the pattern of security prices and interest rates. Such practices are apt to have a boomerang effect in that at some stage institutions or the public fail to respond to homilies and in returning to what for them is the optimum distribution of assets may unload government securities at an awkward time for the authorities. Recent Australian policy can also be criticized because it had the effect of slowing down a transfer of insurance company funds from government to industrial securities which was probably desirable in the interests of the long-term development of the capital market.

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THE FACTOR GAP AND THE LEVEL OF WAGES

So long as the analysis of inflation was conducted in ordinary Keynesian terms the labour market was not considered separately. More recently, however, economists of the Scandinavian school, and particularly Bent Hansen,[1] have, by making use of the identity (*ex-ante* gap between saving and investment equals *ex-ante* goods gap plus *ex-ante* factor gap) developed a method of analysis which provides explicit consideration of individual markets. At first sight this appears to be a tremendous advance. We shall show here, however, that there may be considerable difficulty, for some markets, in determining just what does constitute inflationary pressure. More specifically, we hope to show that an excess of vacancies over unemployed ("more jobs than men") need not necessarily lead to wage increases since such an excess cannot always be identified with excess demand.

According to Hansen ". . . a *monetary pressure of inflation* exists if there is monetary excess demand in either the composite commodity-market or the composite factor-market, so long as neither of them exhibits excess monetary supply."[2] If competition is perfect excess demand is defined as the excess of demand over supply at a given price, while if it is not ". . . the concept of excess demand is easily formed, as the difference between the quantity which is in demand and the quantity which is supplied at the price chosen by the monopolist (monopsonist)".[3] Here Hansen has broadened Hicks' definition[4] to apply to monopoly as well as to perfect competition. Unfortunately, as we shall see, an excess of demand over supply at the going price need not lead to an increase in that price *if competition between buyers is not perfect (monopsony)*. Hence this excess can be identified neither with excess demand nor with inflationary pressure.

We shall support these contentions by investigating the supply of labour to and demand for labour of the individual firm on the following assumptions:

(1) that there is full employment;
(2) that the labour market is not perfect;
(3) that every entrepreneur is attempting to maximize his short-run profits;

and shall see that, on these assumptions, an excess of vacancies over unemployed is consistent with equilibrium at the ruling wage. We shall also see that further difficulties are encountered in defining excess demand for labour if there is oligopoly in the product market. We shall confine our discussion to the labour market, but it seems likely

1. Bent Hansen: *A Study in the Theory of Inflation*, London, 1951.
2. *Ibid.*, p. 6.
3. *Ibid.*, p. 3.
4. Hansen refers to Hicks: *Value and Capital*, p. 63.

that similar problems will arise in any other market in which competition between buyers is imperfect.

I. *Imperfections in the Labour Market*

Our contention is that, if the labour market is imperfect, the existence of vacancies at the ruling wage rate is consistent with equilibrium. We do not simply mean that employers will, as a matter of policy, refrain from competing with one another but that rational, profit-maximizing, entrepreneurs may not find it in their own interests to raise wages in order to fill their vacancies if the labour market is imperfect—in other words, they may have vacancies but still be maximizing their profits at the existing wage rate. To show how this can be, we shall investigate certain aspects of the theory of monopsony and oligopsony. The basic theory of wage determination under monopsony was, of course, provided by Mrs. Robinson[5] and much of what follows is best regarded as a special application of her constructions to the study of inflation. Surprisingly little, however, has so far been added to Mrs. Robinson's foundations. The biggest contribution of which we are aware is that of Reynolds.[6] The argument to be presented here does not, we believe, conflict with his but is rather an attempt to apply the same principles in a somewhat different context.

I (a). *Monopsony*

By monopsony we do not mean, of course, that there is a single buyer of labour.[7] We simply mean that, whatever the reason, the supply curve of labour to the individual employer rises. He may be a large employer or an insignificant one provided that this condition is met. Reynolds suggested that a labour supply curve with an appreciable upward slope must be ascribed to one of two principal reasons, the preference of workers for particular jobs or places (he specified three main causes for such preferences) or the large size of employing firms.[8] For our present purpose there is no need to distinguish between the two unless the second means oligopsony, in which case it requires separate treatment. Nor do we see any need here for a distinction similar to that between imperfect and monopolistic competition. Provided that there is no deliberate retaliation (oligopsony) it is a matter of complete indifference to us *why* the individual supply curve rises. We simply take it as assumed data that it does, that, left to itself, the labour market is normally imperfect or monopsonistic.

If the supply curve of labour to the individual firm is rising the marginal cost of labour exceeds its average cost. An employer who

5. Joan Robinson: *The Economics of Imperfect Competition*, London, 1933, Books VI-IX.
6. Lloyd G. Reynolds: "The Supply of Labour to the Firm", in *Quarterly Journal of Economics*, Vol. LX, 1945-6, pp. 390-411.
7. Those who maintain, correctly enough, that this is just what monopsony does mean, may substitute the more clumsy term "monopsonistic competition" wherever I have written monopsony.
8. *Ibid.*, p. 397.

is maximizing his profits at the existing marginal cost will therefore offer no more *although he may report vacancies*. Thus in Fig. 1 the entrepreneur who is employing ON men at a wage OP is maximizing his profits. If the supply curve of labour to the right of T were perfectly elastic he would employ OM men. He may therefore report NM vacancies to his local office of the Department of Labour or Labour Exchange in the hope that official help may increase the elasticity of labour to him and thus lower its marginal cost (in New Zealand, for

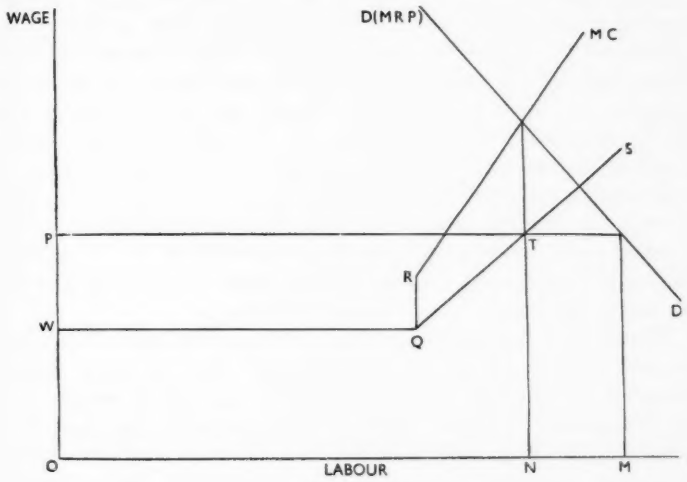

FIGURE 1

example, by directing indentured immigrants to his service at the ruling wage rate OP), but however large NM may be he will not offer a wage in excess of OP. Hence, given the two assumptions of market imperfection and profit maximization, *a large number of reported vacancies may be perfectly consistent with equilibrium in the labour market and not, as it is commonly supposed, a sign of inflationary pressure*. Once stated, this point is sufficiently obvious and requires no elaboration.

There is, however, a further consideration. Suppose that the wage actually being paid is OW, which may be either a nationally agreed trade union rate or a legally enforceable minimum. So long as there is some unemployment the supply of labour to the firm is perfectly elastic at the rate OW and the actual imperfection of the market is concealed by the common rule.[9] As soon as all who want

9. I do not mean to imply that collective bargaining, with or without compulsory arbitration, produces a perfect market. So long as each firm can hire as many men as it wishes at the standard rate, however, the market has the appearance of perfection from the point of view of the individual firm.

jobs at this standard rate have them, however, the imperfection of the market becomes effective once more. If, in these circumstances, the firm is employing WQ men, then the supply curve rises to the right of Q since more labour can only be had by attracting new entrants to the labour market or enticing men away from other employers. The result is that the supply curve, WQS, has a kink or corner at Q and that the marginal cost curve has, therefore, a vertical portion, QR. Hence, if the demand curve lay below R instead of where we have drawn it there would be no increase in wages although vacancies might be announced at the wage OW. Even an increase in the demand for labour need not lead to a wage increase since the vertical part of the marginal cost curve introduces a range of indeterminacy. Whether or not this kinked case or the general case already discussed is the more important depends, of course, on the prevailing method of determining minimum or standard wages. If the practice is to determine only a minimum (as is the case in New Zealand) the general case is probably the more important. If, on the other hand, trade union pressure commonly forces a wage-rate closer to the employers' "upper sticking point" we may expect the kink to be important.

We see now that an excess of vacancies at the prevailing wage-rate need exercise no pressure on that rate. Such an excess cannot reasonably be called an "excess *demand*", nor can it be identified with inflationary pressure. Firms which report to the authorities vacancies which they wish to fill at the existing average, but not at the existing marginal, cost are in fact only asking that supply be made more elastic. Hence the number of vacancies will be an unreliable guide to inflationary pressure in any country with a less than perfect labour market. If, in addition, the wage structure is such that when employment is less than full the supply curve to the individual firm is horizontal, the result of full employment is a kink in each individual supply curve and a vertical portion in the marginal cost curve. In this case there will be no increases in wages by individual firms, whatever the number of vacancies, unless their demand curves lie above the upper corners of their marginal cost curves.

I (b). *Oligopsony*

We apply this term to the situation in which the labour market is divided into small portions in each of which there are only a few employers. Here, too, we shall find that Hansen's concept of excess demand is inappropriate, as we have already seen it to be in the case of simply monopsony, and that vacancies can exist in a market which is in equilibrium. Consider the position of a comparatively large employer in a small town in which there are, let us say, only half a

dozen other large employers (retail trade in such a town will not absorb a sufficient quantity of labour to exercise any considerable influence on the market). Now let us consider the supply of labour to the individual employer as shown in Fig. 2. He is employing OM workers at the wage OP. Thanks to the imperfections of the market the supply curve SS′ rises to the right of T. But SS′ corresponds to changes in the wages paid by this employer only. It is drawn on the

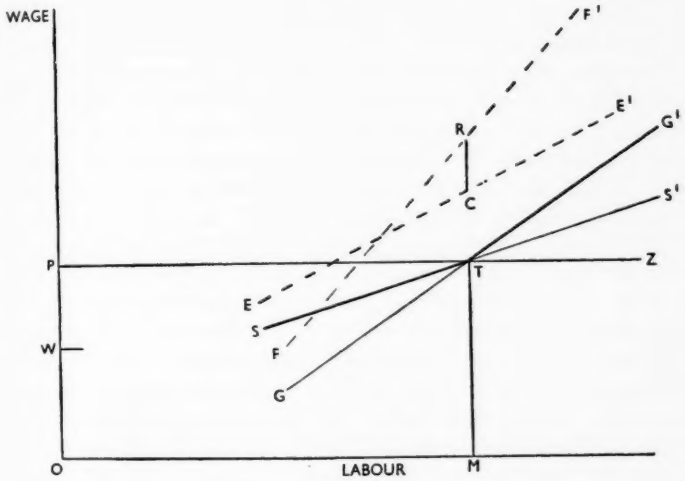

FIGURE 2

assumption that when our employer raises wages other employers do not follow suit so that he is able to attract labour from them. It is therefore analogous to the "particular demand curve" of the Chamberlin-Hall and Hitch oligopoly solution. The moment we drop the assumption that other employers will permit him to encroach on their labour force without themselves taking any action we see that there are other, and steeper, supply curves which we may call retaliation supply curves, drawn on the assumption that when our employer raises wages others will do the same in self-defence. There will be a family of such curves, each corresponding to a different degree of retaliation. GG′, which is a member of this family, we shall call the share-of-the-market supply curve.

The slope of GG′ requires some attention. A wage increase by any one employer is likely to lead to a general increase in the market in which he hires labour. We assume that retaliation is confined to the market in question (this is similar to the tacit assumption made in the analysis of oligopoly, that the group can be studied in isolation

so that a movement down the share-of-the-market demand curve need not be supposed to provoke a reduction in the general price level). Now we give GG′ a positive slope even if we assume that local retaliation is, and is expected to be, perfect in the sense that when one employer offers more all the others in the market increase their wage by enough to prevent their losing any labour to him.[10] If retaliation is perfect, in this sense, GG′ will have exactly the shape of the aggregate supply curve of labour to the market in question and this, when drawn to correspond to local, as opposed to national, wage changes, will have a positive elasticity even if the aggregate national supply of labour has a negative elasticity, so long as the migration induced by the local increase is sufficient to offset the negative elasticity (if any) of supply of workers already in the market.

Now we submit that retaliation or, more properly, the fear of retaliation, exercises the same deterrent effect on the entrepreneur who is contemplating a wage increase that it does upon the entrepreneur who is contemplating a price cut, and it seems reasonable to suppose that in a small market, where the actions of each employer closely affect his neighbours and where those neighbours are as jealous of their labour force as they will be at a time of full employment, retaliation will be generally expected. If the employer expects that a wage increase will be followed by other employers while a wage cut will not, then the effective supply curve is the kinked[11] curve STG′. Hence for T to be a point of equilibrium it is not necessary that the demand curve should pass through R. The whole marginal cost curve comprises a portion, EC, of the curve corresponding to SS′, another portion, RF′, of the curve corresponding to GG′, and therefore a vertical portion, RC. Provided that the demand curve lies between R and C, OP is an equilibrium wage and no more will be offered, no matter how far to the right of T the demand curve cuts PZ nor how many vacancies are notified at that wage. An increase in the demand for the product will fail to produce a wage increase unless it is sufficient to move the demand curve for labour above R. Unless it does, the employer can gain nothing from a wage increase and, more important, he will be aware of the fact. He will continue to report vacancies in the hope that government agencies will fill them for him at the wage OP, but he will not increase his offer in an independent attempt to increase his share of the labour force unless his need is so pressing that he is prepared to face the retaliation of his neighbours.

10. Defining perfect retaliation in this fashion avoids the difficulty, encountered by Reynolds, *op. cit.*, p. 396 note, of equal absolute and equal percentage increases. It is harder to give a precise meaning to perfect retaliation downwards but, fortunately, this is not necessary. It is plain that if a wage cut is followed by other employers the loss of men will be smaller than if it is not and that the share of the market supply curve will therefore be steeper than the particular supply curve for wage cuts as well as for wage increases.

11. This argument is very similar to that presented by Reynolds, *op. cit.*, p. 395-6.

So far we have discussed the case of oligopsony without reference to wage rates set by government agencies or trade union agreements. It will be helpful to consider the case in which oligopsonists are paying a wage so determined since this will throw some light on the problem of how the oligopsony wage, which is only determinate with respect to product price within limits, and which so far we have only shown to be sticky, gets determined in the first place. For this purpose we can return to Fig. 1. Suppose that the oligopsonist is employing WQ men at a nationally agreed wage of OW. Since his competitors are expected to resist any attempt he may make to increase his labour force at their expense, the supply curve is steeper than QS, and the vertical part of the marginal cost curve longer than RQ. Hence it will take a larger increase in demand than in the case of simple monopsony to induce him to offer more than the ruling rate. The existence of vacancies at the wage OW will not provoke an increase until the demand curve of one employer has risen above the upper corner of his marginal labour cost curve. Once it has, and he has increased his offer, other employers will be forced to follow suit and all will move up their share-of-the-market supply curves. We can now return to Fig. 2 and the accompanying analysis. Wages have increased from OW to OP at which level they will remain until the demand of one employer rises enough to provoke a second round of increases. It seems probable that in practice the wage increases will come in rounds with intervening periods of stability, each increase being initiated by that employer who is, even if temporarily, strong enough to act as a "wage leader" and being followed, more or less rapidly, by the others.

We started by assuming that our employer was one of few in a small town with a comparatively fixed supply of labour, an assumption which helps to make the matter clear. Our analysis, however, is not so narrowly confined. We will find oligopsony in the labour market whenever there are few employers of a given type of labour in an area and the cost of mobility is positive. Thus in a large town there may be only, say, three iron foundries, and so long as mobility, whether geographical or occupational, has a positive cost, so that the local supply of foundrymen is limited, our analysis will apply. We suggest that this may explain a phenomenon sometimes observed in the last few years, the apparent stickiness of the wages of many of the skilled and comparatively rare craftsmen compared with those of unskilled, casual and seasonal workers. The employer of skilled men who are limited in number will fear retaliation if he attempts to increase his share; the employer of casual labour will not; and the employer of seasonal labour, even if skilled, may fear retaliation but will be forced to accept the risk by the necessity of catching his market. If this is

correct then excess demand in the labour market may often tend to "squeeze" the margin for skill.

The analysis of oligopsony is, of course, subject to the same difficulties regarding the definition of the group and its relation to general equilibrium which are encountered in the theory of oligopoly. We cannot go into these problems now but for our present, limited, purpose they do not appear to be serious. In spite of Professor Chamberlin's plea for ". . . areas intermediate between the firm and the whole economy . . .",[12] we do not need to define an area or local labour market. The concept was introduced only for the purposes of exposition and it can be removed without damaging the analysis. We can look at the whole affair from the factory gate. There is a particular supply curve, SS′, to any firm and we say that oligopsony exists, by definition, whenever the employer imagines that the effective supply curve to him is not SS′ but a separate and steeper "retaliation supply curve", such as GG′, and acts accordingly. Of course, if we approach the problem in this way our distinction between local and national wage increases loses precision. Perfect retaliation ceases to have meaning unless it is interpreted to mean perfect retaliation throughout the economy, so that no more labour can be got from anywhere at any price save by attracting new entry to the labour market. For our purposes these consequences of abandoning the group are not serious. We lose nothing of value since all the information that we really require about the size of the local labour market, the number of employers, their expected policies, the costs of mobility and the reactions of more distant employers is contained in Fig. 2, for it determines the shapes of the different supply curves. We do not need to know any more and the problem of "near" and "far" does not concern us further.

There is, of course, no necessary connection between oligopoly in the product market and oligopsony in the labour market. A firm may be so located and employ such a class of labour that the market in which it hires is virtually perfect (although this is practically impossible at full employment), and yet be an oligopolist in the product market, while an oligopsonist may sell in a highly competitive product market. In the next section we shall discuss the problems of the oligopolist who is also an oligopsonist. We shall not, however, examine the case of oligopolists selling to oligopsonists which, if businessmen typically sell to other businessmen, and if oligopoly is as common as is sometimes suggested, may be fairly common, but is beyond the scope of this paper. Nor shall we discuss duopsony though we suggest that, since businessmen may have feelings of class solidarity about wages which they cannot be supposed to entertain about prices, collusion is the most probable result.

12. Edward H. Chamberlin: "Monopolistic Competition Revisited", in *Economica*, N.S., Vol. XVIII, 1951, pp. 343-62, especially p. 362, note.

It seems, incidentally, that oligopsony in the labour market may account for much of the prevailing "non-wage competition". Mr. Rothschild[13] has shown that monopsonists may find it profitable to incur buying costs just as monopolists find it profitable to incur selling costs, and his analysis can be applied even more convincingly to oligopsony. Just as oligopolists, reluctant to start a price war, compete over quality, packaging, service or advertising, so may oligopsonists, reluctant to start a wage war, compete over the provision of canteens, washing facilities or pension schemes. At first sight it is hard to see why the employer should burden himself with the bother and administrative expense of such non-money inducements instead of simply raising wages. To Mr. Rothschild's explanation, that buying expenditure may yield a net return by lowering the marginal cost of labour to the firm, we add the additional reason that an oligopsonist may be anxious to avoid a wage war. It is sometimes hard to understand why employers should imagine that a pension war is less likely or necessarily less expensive than a wage war, but the same difficulty arises in understanding the motives behind some of the more expensive manifestations of non-price competition in product markets.

We believe that we have now said enough to show that, in spite of an unsatisfied demand for labour at the ruling wage rate, individual employers may be in a position of equilibrium and therefore quite unwilling to offer more. This is sufficient reason for refusing to identify an excess of vacancies over unemployed with "excess demand" in the usual sense, for an excess, whether of supply or demand, must denote a situation of disequilibrium. It is clear that a situation in which there are more jobs than men is not necessarily inflationary. We may note, too, that we have reached this conclusion without resting any part of the argument on the assumption of collusion among employers, despite the probable importance of, at least, tacit collusion. We can now, if we wish, give their proper weight to esprit-de-corps and class solidarity among employers. We do not believe that employers as a whole are so homogeneous and class conscious that each individual among them will refrain from bidding up wages if his excess demand is genuine, although some may do so. We do suggest that these feelings will strengthen any tendency which is already in the interests of all, or many, employers and, specifically, that local solidarity will help to deter employers from making increased wage offers which, as we have shown, will, *in any case*, look doubtful and risky.

II. *Oligopoly*

There is, at first sight, not the slightest reason why imperfections in the product market should prevent employers from bidding up

13. R. K. Rothschild: "Monopsony, Buying Costs and Welfare Expenditure", in *Review of Economic Studies*, Vol. X, Winter 1942-3, pp. 62-7.

wages until all are employing as much labour as the ruling wage rate makes profitable, equating its marginal cost with its marginal revenue product (which, of course, need not prevent them from reporting vacancies). The presence of oligopoly, however, introduces some peculiarities into the demand for factors which we must consider. The demand curve for a factor is the product of marginal physical returns and of marginal revenue. If we assume constant physical returns (which we might do as a first approximation since the relevant bottleneck is labour, not capital) the demand curve for labour is an exact replica of the marginal revenue curve of the firm, including

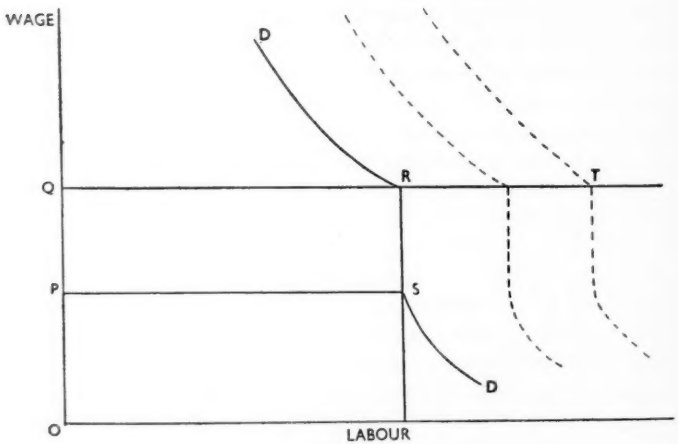

FIGURE 3

the vertical portion characteristic of oligopoly. Even if the slopes of its two parts are modified by varying physical returns there is still a vertical portion at the existing level of output, price and employment, RS in Fig. 3. This fact has been noticed by several writers[14] and it has frequently been remarked that in this situation the relationships between price and marginal cost and wages and employment can only be determined within limits. So far as I am aware, however, its relevance to the present problem has not yet been noticed.

We can in fact only draw DD as the demand curve for labour of an entrepreneur who faces oligopoly in his product market on the assumption that his product price *does* vary. So long as it does not, the only part of DD that has meaning is RS. If the ruling rate of wages is OP and if the amount of labour the employer can get at

14. e.g. G. F. Bloom: "A Reconsideration of the Theory of Exploitation", in *Quarterly Journal of Economics*, Vol. LV, 1940-1, reprinted in the American Economic Association's *Readings in the Theory of Income Distribution*, pp. 245-77, and R. F. Mikesell: "Oligopoly and the Short-Run Demand for Labour", in *Quarterly Journal of Economics*, Vol. LV, 1940-1, pp. 161-6.

that rate is less than PS, he will be prepared to offer as much as OQ. If, at this rate, he still cannot hire as much labour as he requires to meet the demand for his product he will have to accept the situation, for he will pay no more so long as his product price is unchanged. An increase in sales with a constant price will only have the effect of moving his demand curve for labour bodily to the right, to one of the dotted-line demand curves in Fig. 3, as the "present selling point" moves to the right. Of course if the shift in demand is not iso-elastic the length of the vertical portion of the marginal revenue curve will be altered, but this does not affect the present argument. With a fixed product price his effective demand curve for labour as sales vary is then the horizontal line RT (once the wage rate OQ is reached, that is). RT is the locus of the upper corners of all the demand curves corresponding to all the possible levels of sales at the given price. Thus whatever stickiness oligopoly gives to product prices, as demand varies, will be reflected in wage stickiness, as the demand for labour varies. The employer may report RT vacancies but it will not be in his interests to offer more than OQ so long as his product price is constant.

We have, therefore, yet another case in which an excess of vacancies over unemployed is not necessarily inflationary and in which excess demand cannot be easily defined in terms of supply and demand at current prices. And, so far in this discussion of oligopoly, we have neglected the characteristics of the labour supply at full employment which we discussed in the last section. The oligopolist may be either a monopsonist or an oligopsonist and the wage rate may be free or there may be an institutionally fixed minimum. A brief examination of these four cases will show that in each there is a range of indeterminacy and equilibrium is consistent with unsatisfied demand at the ruling wage. Combined in each case with oligopoly, we may have

1. Monopsony: unless the marginal labour cost curve lies below the lower corner of the demand curve (profits are not maximized, that is) there will be no increase in wages whatever the number of vacancies at the existing wage.
2. Monopsony with a standard wage: there is now a vertical portion in the marginal labour cost curve as well as in the demand curve and there will be no increase in the wage offer unless the lower corner of the latter lies above the upper corner of the former.
3. Oligopsony: as in Case 2, save that the upper corner of marginal cost curve will be higher and the conditions for a wage increase correspondingly more severe.
4. Oligopsony with a standard wage: the same.

We may expect particular wage stickiness when the oligopolist is also an oligopsonist since the entrepreneur who expects unpleasant reactions from his rival in both markets will be more reluctant to experiment than the entrepreneur who expects retaliation in only one market and has, therefore, some freedom of manoeuvre in the other.

III. *Conclusion*

Our general conclusion is that the existence of an unsatisfied demand for labour at the ruling wage rate does not necessarily mean that there is any pressure upon that rate. This has some theoretical and practical implications which it may be as well to mention.

The essential assumption of Hansen's approach to inflation is that it is possible to add demands and supplies, in money terms, and to determine from their equality or non-equality whether or not there is overall equilibrium in demand and supply for all the goods or factors comprising a composite market.[15] We have shown that, in at least one very important case, it is not. It is important to make the distinction between imperfect competition among sellers and imperfect competition among buyers. It is possible, even when competition among sellers is imperfect, to deduce from the equality or non-equality of total demand and supply for all the goods in a composite market whether or not there is a disequilibrium which will involve pressure on the general price level in that market. The unfortunate fact is that this is not possible if it is competition among buyers that is imperfect, even if we assume, instead of a composite market, a market for a single homogeneous good. It may be argued, of course, that if there are as many separate markets for labour as there are individual employers (or, more important, as many separate marginal cost curves), then there is an important sense in which labour is not homogeneous and "the" labour market is a composite. If this is accepted we can express our conclusion in another way: inequality between the sum of the supplies to, and the sum of the demands of, monopsonists and oligopsonists is not evidence that any single one of the monopsonists or oligopsonists is in a position of disequilibrium or, therefore, that the market as a whole is in disequilibrium. It is doubtful, in fact, if these sums mean anything very much at all.

It seems, therefore, that Hansen's definition of excess demand is inappropriate in the presence of monopsony and oligopsony and that, in consequence, we have no means of telling whether or not there is inflationary pressure in the labour market save by asking whether or not each individual employer is in a position of equilibrium. This means that, if the assumption of imperfect competition between buyers of labour is regarded as important, the goods gap-factor gap approach

5. Cf. Ralph Turvey and Hans Brems: "The Factor and Goods Markets", in *Economica*, N.S., Vol. XVIII, No. 69, February 1951, pp. 57-68.

must be abandoned unless a new method can be found for discovering whether or not there is an excess demand or supply from the sums of the demands and supplies. The difficulty in arriving at a useful concept of excess demand is greatly increased, as we have seen, if there is oligopoly in the product market.

The practical implications of these conclusions are easily derived from what has already been said. It seems likely that the contribution of the labour shortage to the inflationary process of the last few years may have been generally over-estimated (its contribution via induced wage changes, that is to say). It is certain that the existence of more jobs than men need not lead to wage increases—though not certain that it will not!—and the number of vacancies cannot therefore be taken as an indicator of inflationary pressure. And it seems likely that unless the difficulties surrounding the concept of excess demand for labour can be overcome we shall have to return to the unsatisfactory method of estimating *ex-ante* savings and investment.

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THE "PRINCIPAL FACTORS" APPROACH TO INDEX NUMBER THEORY

1

Tintner[1] has recently drawn attention to the possibilities of the "principal factors" approach to many problems in the index number field. It is the intention of this article to examine the application of the method to a number of Australian official index numbers.

2

The main concept of the "principal factors" approach is the following:

Assume that we have a set of index numbers, each of which measures in an imperfect way something which we may loosely call the "general level of prices". The measurement is imperfect because each index number is based on a sample and therefore contains a sampling error. Furthermore, it will generally be designed to measure price changes in a particular sector rather than the whole economy. Now the price movements in a particular sector *may* share no common element: there may be no sense in which we can speak of a "general level of prices". But if there is any such common element we can split the value of the index number into two parts, one of which is related to the common factor, and the other of which is a "random" or "error" term.

Let us concentrate on this first part, i.e. let us assume for the moment that there are no errors. Each series, that is, will follow the movements of the "general pattern", but not necessarily with the same amplitude, i.e. some may be more "cyclically sensitive" than others. The point may be illustrated by the following hypothetical example:

						Mean	Amplitude
Year	0	1	2	3	4		
General Pattern ..	95	100	105	100	95	100	10
Series A	99	102	105	102	99	102	6
Series B	72	80	88	80	72	80	16

Both series are moving completely in unison with the "general pattern" but with different mean values and with different amplitudes. If, however, we express these as deviations from the mean, and then divide by the amplitude we get

1. Tintner: *Econometrics* (New York, John Wiley & Sons, Inc.).

Year	0	1	2	3	4
General Pattern	−0·5	0	+0·5	0	−0·5
Series A	−0·5	0	+0·5	0	−0·5
Series B	−0·5	0	+0·5	0	−0·5

where all three become identical.

For longer and more erratic series the measurement of amplitude is difficult, and it is more satisfactory to use as our unit of scale the standard deviation, i.e. to standardize the variable. That is to say: if we define the "general pattern" as necessarily having zero mean and unit variance (i.e. unit standard deviation), then, in the absence of error terms, all other series, when standardized, will reproduce the general pattern.

3

Consider now the effect of reintroducing the error terms. From this stage on we shall be concerned with standardized variables only.[2]

Let us denote by ${}_rI_t$ the value (standardized) of the r^{th} index ($r = 1 \ldots p$) at time t. We may write this

$$(1) \quad .. \quad .. \quad {}_rI_t = a_r . F_t + {}_r\epsilon_t \qquad r = 1 \ldots p$$

where F_t is the value at time t of the "general pattern", and ${}_r\epsilon_t$ is the "error" in the r^{th} series at time t. These error terms are regarded as being

(1) independent of F_t within each series,

(2) not serially correlated within the particular series.

We may now consider the implications of these two conditions. The first requires little consideration: if there is any consistent relationship between the "random" terms and the systematic part we should obviously incorporate this in the systematic part and set out new random terms which are truly random. It should be noted, however, that we do not assume as a necessary condition that the errors terms of the various series are independent of each other. The second condition is of considerable significance for, as we shall see later, it is the crucial assumption distinguishing the present approach from the more usual one. But one must be clear about the ways in which auto-regressive relations can arise between the error terms. Systematic errors of observation will largely be removed by the process of standardization, and it would seem that auto-regressive schemes among the errors can only arise in the main from the "cob-web" effects. The systematic part may well be serially correlated, but with this we are not here concerned.

2. Differences between the means of observed index numbers over any given period of years reflect mainly different base years and are of little significance: differences between the variances reflect sensitivity to the "general pattern" and are of considerable significance, but not in this context.

4

For most purposes of economic analysis it is this "general pattern" that we wish to isolate from a number of series such as ${}_{r}I_{t}$. In formal terms we wish to find "weights", i.e. K's, so that we can form a new variable μ_t given by

$$(2) \quad .. \quad .. \quad \mu_t = K_1 . {}_1I_t + K_2 {}_2I_t \ . \ . \ . \ . + K_p . {}_pI_t.$$

We may now reasonably impose on this new variable μ_t the conditions that

(i) The total variance of μ_t should be unity.

(ii) The variance of the random part of μ_t should be a minimum.

Under these conditions μ_t will be the combination of the original variates which most closely approximates to F.

It can be shown[3] that the appropriate values of the K's are obtained by solving the equations

$$(3) \quad .. \quad .. \quad \begin{matrix} K_1(1-\lambda) + K_2 r_{12} + K_3 r_{13} \ . \ . \ . & K_p r_{1p} \\ K_1 r_{12} + K_2(1-\lambda) + K_3 r_{23} \ . \ . \ . & K_p r_{2p} \\ K_1 r_{1p} + K_2 r_{2p} + K_3 r_{3p} \ . \ . \ . \ . & K_p(1-\lambda) \end{matrix} = 0$$

where λ is the largest root of the equation:

$$(4) \quad .. \quad .. \quad \begin{vmatrix} 1-\lambda & r_{12} & r_{13} \ . \ . \ . \ . & r_{1p} \\ r_{12} & 1-\lambda & r_{23} \ . \ . \ . & r_{2p} \\ r_{1p} & r_{2p} & r_{3p} \quad 1-\lambda \end{vmatrix} = 0$$

and r_{lm} is the simple regression coefficient between ${}_lI_t$ and ${}_mI_t$.

It can further be shown that the proportion of total variance of whole set explained by the common factor is $\frac{\lambda}{p}$ and that the proportion of the variance of ${}_rI$ explained by this common factor is $a_r{}^2$ where $a_r{}^2 = \frac{K_r{}^2}{\lambda . \Sigma K_r{}^2}$

5

In effect we have been obtaining "weights" to apply to the p specific series ${}_rI_t$ $(r = 1 \ . \ . \ . \ . \ p)$ in order to obtain an estimate of the common pattern. How far is this related to the classical weighting problem in index number theory? In the first place it must be remembered that the classical problem is not dealing with standardized series. *Ex-post* this produces no problem, but *ex-ante* it is a major one for we can have no firm prior knowledge of the means and variances of the particular series, and past experience may be a poor guide. Methods such as have been discussed above can only be used in after-the-event studies. But it is still relevant to seek the relationship between these methods and the classical ones, for most structural investigations must be historical in nature.

3. Tintner, *op. cit.*, p. 102 et seq.

The matter is somewhat complex, but it would seem that the major points of relationship are the following:

(a) If the individual series chosen are "appropriate" ones, i.e. the ϵ term is small in each series, then any system of weighting will be reasonably sound. The general direction of movement will be more or less correct, but the variance of the weighted index will be arbitrarily determined by those of the original series and the weights used. This will not in general be of much significance in pure economic analysis, for in any econometric analysis standardization is generally implicit. But it may well be of vital importance in other uses of index numbers (e.g. in wage determination).

(b) If the random terms are at all large in any of the component series then it seems that the classical theory must assume that ${}_{t_1}\epsilon_r$ and ${}_{t_2}\epsilon_r$ are highly correlated (in contradistinction to our assumption (2) of §3). Putting it very briefly, the classical approach makes the following, or closely similar, assumptions, viz.: that if we can find weights ω_r in the base year ($t = 0$) such that $\Sigma\omega_r \cdot {}_0\epsilon_r = 0$, then $\Sigma\omega_r \cdot {}_t\epsilon_r$ will also be zero, since ${}_0\epsilon_r$, ${}_t\epsilon_i$ (i.e. the errors in the r^{th} series at two different periods) are inter-related. For purposes of economic analysis (though not necessarily for administration, let it be repeated), it seems that the principal factor approach has therefore much to commend itself, for this assumption of high auto-correlation does not always seem justified.

6

The greater power for purposes of analysis of this method of determining the appropriate weights becomes even more apparent when we proceed to take out second, third, fourth, etc., principal factors. It was pointed out in §3 that we have not assumed that the residual terms in equation (1) are necessarily independent between series. It may be that they themselves are inter-related and that we should properly write relation (1) as

$$(5) \quad \ldots \quad \ldots \quad {}_r\mathrm{I}_t = a_r \cdot {}_1\mathrm{F}_t + \beta_r \cdot {}_2\mathrm{F}_t + {}_r\epsilon_t \qquad r = 1 \ldots . p$$

where ${}_1\mathrm{F}_t$, ${}_2\mathrm{F}_t$ now represent two independent (i.e. orthognal) factors, present in varying degrees in each series.

We can determine approximations to ${}_1\mathrm{F}_t$, ${}_2\mathrm{F}_t$ by considering two new variables

$$(6) \quad \ldots \quad \ldots \quad {}_1\mu_t = \mathrm{K}_{11} \cdot {}_1\mathrm{I}_t + \mathrm{K}_{12} \cdot {}_2\mathrm{I}_t \ldots . \mathrm{K}_{1p} \cdot {}_p\mathrm{I}_t$$
$$ {}_2\mu_t = \mathrm{K}_{21} \cdot {}_1\mathrm{I}_t + \mathrm{K}_{22} \cdot {}_2\mathrm{I}_t \ldots . \mathrm{K}_{2p} \cdot {}_p\mathrm{I}_t$$

where again, for each μ, the total variance is specified as unity, and the variance of the random element is minimized. Also we can determine the proportion explained by each factor of the total variance and the variance of each individual series.

TABLE I

Standardised Australian Index Numbers and "Principal Factors" 1936-7 to 1951-2

	All Farming X_1	Export X_2	Wholesale X_3	C Series X_4	N.S.W. Stock Exchange X_5	Imports (C.mw.B.) X_6	F_1	F_2	F_3
1936–7	−0.698	−0.625	−0.987	−1.063	−0.600	−1.202	−0.887	−1.038	+0.686
37–8	−0.756	−0.701	−0.948	−0.992	−0.645	−1.149	−0.890	−0.760	+0.514
38–9	−0.837	−0.817	−0.937	−0.904	−0.784	−1.160	−0.932	−0.376	+0.578
39–0	−0.781	−0.727	−0.871	−0.841	−0.832	−1.012	−0.868	−0.243	+0.658
40–1	−0.722	−0.690	−0.700	−0.671	−0.957	−0.791	−0.776	+0.254	+0.789
41–2	−0.682	−0.678	−0.513	−0.487	−1.123	−0.559	−0.692	+0.858	+0.933
42–3	−0.571	−0.626	−0.273	−0.229	−0.888	−0.307	−0.495	+1.122	+0.410
43–4	−0.487	−0.608	−0.231	−0.221	−0.607	−0.180	−0.399	+0.888	−0.295
44–5	−0.397	−0.530	−0.214	−0.221	−0.465	−0.127	−0.334	+0.669	−0.445
45–6	−0.402	−0.430	−0.201	−0.198	−0.119	−0.085	−0.246	+0.288	−1.114
46–7	−0.128	−0.077	−0.170	−0.110	+0.449	+0.241	+0.034	−0.466	−2.026
47–8	+0.425	+0.424	+0.122	+0.128	+0.882	+0.641	+0.448	−0.937	−1.874
48–9	+0.534	+0.728	+0.527	+0.511	+0.799	+0.778	+0.664	−0.363	−0.851
49–0	+1.020	+1.042	+0.977	+0.911	+1.024	+1.031	+1.029	−0.182	−0.121
50–1	+2.560	+2.727	+1.723	+1.582	+2.252	+1.726	+2.154	−2.033	+1.638
51–2	+1.920	+1.588	+2.698	+2.804	+1.617	+2.159	+2.191	+2.318	+0.522

TABLE II

Correlation Matrix (1936-7 to 1951-2)

	X_1	X_2	X_3	X_4	X_5	X_6
X_1	1.000,000	0.992,885	0.943,838	0.926,975	0.960,146	0.940,048
X_2		1.000,000	0.904,438	0.883,339	0.963,343	0.912,438
X_3			1.000,000	0.998,354	0.881,897	0.969,184
X_4				1.000,000	0.865,025	0.965,734
X_5					1.000,000	0.923,644
X_6						1.000,000

TABLE III

The Principal Factors

$$F_1 = 0{\cdot}1739X_1 + 0{\cdot}1707X_2 + 0{\cdot}1720X_3 + 0{\cdot}1702X_4 + 0{\cdot}1688X_5 + 0{\cdot}1724X_6$$
$$F_2 = -0{\cdot}4972X_1 - 0{\cdot}9175X_2 + 0{\cdot}8740X_3 + 1{\cdot}0562X_4 - 1{\cdot}0040X_5 + 0{\cdot}4786X_6$$
$$F_3 = 1{\cdot}5400X_1 + 1{\cdot}6270X_2 + 0{\cdot}7510X_3 + 0{\cdot}4930X_4 - 2{\cdot}1670X_5 - 2{\cdot}2810X_6$$

$$X_1 = 0{\cdot}9876F_1 - 0{\cdot}1182F_2 + 0{\cdot}0979F_3$$
$$X_2 = 0{\cdot}9691F_1 - 0{\cdot}2181F_2 + 0{\cdot}1034F_3$$
$$X_3 = 0{\cdot}9763F_1 + 0{\cdot}2078F_2 + 0{\cdot}0477F_3$$
$$X_4 = 0{\cdot}9664F_1 + 0{\cdot}2512F_2 + 0{\cdot}0313F_3$$
$$X_5 = 0{\cdot}9583F_1 - 0{\cdot}2387F_2 - 0{\cdot}1378F_3$$
$$X_6 = 0{\cdot}9786F_1 + 0{\cdot}1138F_2 - 0{\cdot}1450F_3$$

TABLE IV

Proportion of Variance Explained by the Factors

	F_1	F_2	F_3	Residual
X_1	0.9753	0.0140	0.0096	..0011
X_2	0.9392	0.0476	0.0107	.0025
X_3	0.9532	0.0432	0.0023	.0013
X_4	0.9339	0.0630	0.0010	.0021
X_5	0.9184	0.0570	0.0190	.0056
X_6	0.9576	0.0130	0.0210	.0084
Total	0.9463	0.0396	0.0106	.0035

The process can obviously be continued for three or more principal factors.

The economic meaning of the orthognal relationship will be discussed in a moment.

7. *Application to Australian Data*

Obviously we can use this method to analyse the weighting that should be applied to the components of any composite index number, e.g. wholesale prices, C Series, Stock Exchange price levels, and the like. This work has been done, and results are available on request. The best illustration, however, is probably the analysis of the six price series, All Farming, Export Prices (including gold), Wholesale Prices (All Groups), C Series, Security Prices in N.S.W., and the Commonwealth Bank's Import Price Series over the period 1936-7 to 1951-2. Tables I, II, III and IV provide the basic information (i.e. the stan-

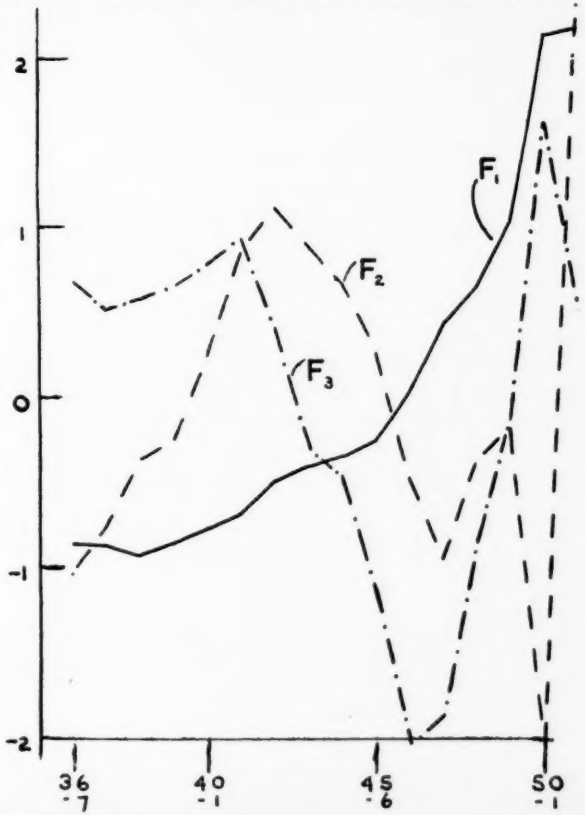

FIGURE 1

dardized variables) and the three major "factors" present in these six series. The factors themselves are shown graphically in Fig. 1. The significance of the factors for each series individually, and for the group as a whole can be seen in Table IV.

The following points are worthy of attention:

(a) Expressed as standardized variables, the indices are remarkably similar—particularly "Wholesale Prices" and the "C Series".

(b) This shows itself again in the dominance of the first factor in all series. Only in the case of Security Prices does it explain less than 93% of the total variation. Thus there seems to be some sense in which there is a "general level of Australian prices".

(c) This "general level" first factor would seem to reflect that all prices were, in the main, steadily rising through the period. It may perhaps be identified as a measure of "price inflation" during the period, but, since it includes the influence of a number of overseas prices in the farming, import and export series, it represents more the general price movement relevant to the Australian economy than any price movement generated within the Australian economy.

(d) The identification of the second and third factors is more difficult. Examination of the weightings involved seems to suggest that the second represents the difference between internal home consumption price levels and those of exports, while the third relates to the difference between export prices and import prices or, roughly, the terms of trade.

(e) Examination of Fig. 2 seems to show that, with the exception of the year 1949-50, F_3 in any one year is closely related to F_2 in the following year. There is nothing startling in the suggestion that favourable terms of trade may be followed, with about a year's lag, by an inflationary rise of domestic above general world (and therefore export) prices. If this tentative identification of the factors is correct, we have established that Australian prices we have had under consideration are determined by

(a) general world price movements (F_1),
(b) the terms of trade, both immediately (F_3) and lagged one year (F_2).

That statistically F_2 appears more "important" than F_3 is merely an accident resulting from the particular group of series chosen—largely the inclusion of N.S.W. security prices.

8. *Value of Results*

It may be objected with some force that this identification of the factors is very subjective, and in any case not that most useful to the economist. It may, for example, be suggested that the simplest economic

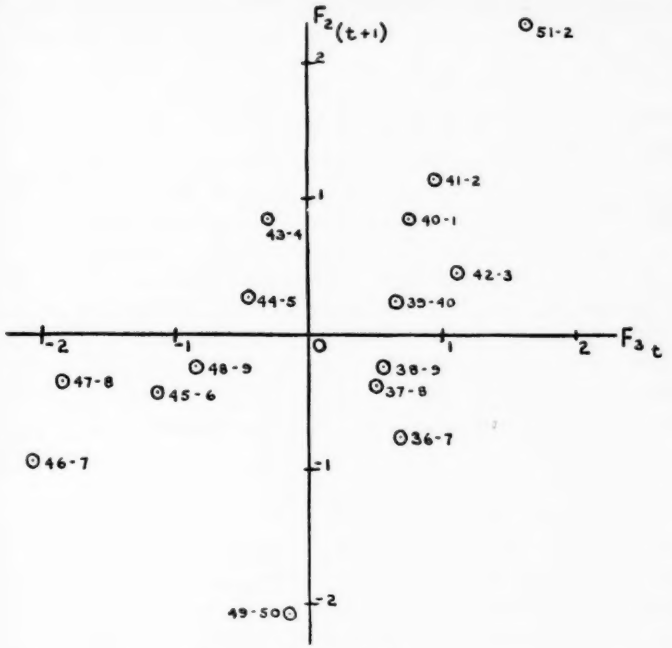

FIGURE 2

concepts for this sort of analysis would be domestic prices and overseas prices, perhaps appropriately lagged. The difficulty is that for any sort of econometric analysis such series are highly inter-correlated, and inevitably one is beset by all the confusing details of a confluence bunch-map analysis. The factors determined above are orthognal, i.e. with zero inter-correlation. They themselves may be difficult to interpret in meaningful economic terms, but they are statistically much more satisfactory to use, for they may be included in any multiple regression analysis with complete confidence.

But the limitations of the technique should also be stressed:

(a) Identification of the factors will always be difficult except in those cases where the main factor only is required.

(b) The factors are always obtained as standardized variates, i.e. with zero mean and unit variance. Before they can be used either to suggest appropriate weights in certain index numbers such as security prices (where they would seem to provide a guide not given by standard theory of weighting) or for any purposes of deflation, decisions must be made about the correct additive terms (to give an appropriate base) and the correct multiplying term (to give the

appropriate variance). Though there may be cases where these decisions can be made on an informed basis, they must necessarily be few, though perhaps no less than those where arbitrary combinations of, for example, the C Series and the Wholesale Price indices are legitimately used for deflation purposes for no better reason than that they seem to work!

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BALANCE OF PAYMENTS EQUILIBRIUM AND MONETARY POLICY

1. Introduction

The main purpose of this paper is to arrive at definitions of balance of payments equilibrium and adequate monetary reserves sufficiently precise to furnish policy-makers with meaningful guides. Recent Australian and New Zealand experience, of relaxations in exchange controls followed by tighter controls and of experimental monetary techniques, suggest an imperfect understanding not only of the concepts of equilibrium and reserve adequacy but also of measures most suited to attain these ends. A restatement of the factors involved in defining these concepts together with an appraisal of remedial measures for a balance of payments disequilibrium is considered appropriate.

2. Concepts of Equilibrium and Disequilibrium

A substantial proportion of the literature on the topic of balance of payments equilibrium stems from Article IV Sec. 5 (*f*) of the Articles of Agreement of the International Monetary Fund, which provides that "the Fund shall concur in a proposed change" (in exchange rates, greater than 10 per cent. of a member's par value) "if it is satisfied that the change is necessary to correct a fundamental disequilibrium". Since fundamental disequilibrium is not defined numerous economists[1] have attempted to remedy the omission, particularly when seeking a suitable criterion for the equilibrium exchange rate. One of these definitions, that of Arthur I. Bloomfield[2], affords a useful introduction to a discussion of balance of payments equilibrium. It is as follows: "theoretically, balance of payments equilibrium implies, in general, the absence over a period of time of net one-sided movements of gold plus 'equilibrating' short-term capital". Bloomfield goes on to write: "In actual practice, deficits will in most cases be measurable in future with reasonable accuracy by a net decline in a country's official holdings of gold and foreign exchange (including private working balances), plus any net increase in its foreign short-term liabilities and/or in the Fund's holdings of its currency". It would thus appear that deficits, measured with

1. See for example: "Currency Depreciation and the International Monetary Fund", Gottfried Haberler, in *Foreign Economic Policy for the United States* (ed. S. E. Harris) (Harvard University Press, 1948), p. 385.
"Domestic and International Equilibrium", Ragnar Nurkse in *The New Economics* (ed. S. E. Harris) (Knopf & Co., New York, 1950), p. 272.
Monetary Theory and Public Policy, Kenneth K. Kurihara (Norton & Co., 1950), p. 364.
2. "Foreign Exchange Rate Theory and Policy", Arthur I. Bloomfield in *The New Economics*, op. cit., p. 304.

"reasonable accuracy" over a period of time, are indicative of disequilibrium. This conclusion bears closer examination not only because of the imprecision in such phrases as "over a period of time" and "equilibrating short-term capital" but also because of unstated assumptions concerning the existence or otherwise of trade barriers and domestic equilibrium.

An operative definition of equilibrium is required as a prelude to an analysis of the factors causing disequilibrium and of appropriate remedial measures. For instance, the International Monetary Fund's *Balance of Payments Manual*[3] defines the balance of payments for a given period as a "systematic record of all economic transactions during the period between residents of the reporting country and residents of other countries, referred to for convenience as foreigners". While distinctions are made between economic transactions that involve a quid pro quo and those (i.e. unilateral) that do not, more meaningful distinctions are those between current account and capital account transactions.

The current account, to use the Manual's definition, "records all transactions other than those representing changes in the international creditor-debtor position of the reporting country and in its monetary gold holdings". Thus it includes as "visible" items the export and import of goods, and as "invisibles" such items as insurance claims, investment income and legacies.

The capital account "records all transactions representing changes in the international creditor-debtor position of the reporting country and in its monetary gold holdings". Such changes may be either increases in assets and decreases in liabilities (a capital outflow), or decreases in assets and increases in liabilities (an inflow). Thus a surplus in a country's current account (i.e. an excess of receipts over payments), would, assuming no other capital transactions, be balanced by either an increase in overseas assets, or a decrease in liabilities. This capital outflow would balance the total balance of payments. It would also conform to the Fund's concept of "compensatory official financing" and as such constitute a criterion against which the state of the balance of payments could be judged.

But to assume no capital account transactions, other than movements in gold and foreign exchange reserves or borrowing from foreign official and banking institutions undertaken to balance a difference in all other items in the balance of payments, is unrealistic. Capital movements, either private short or long-term, or official long-term, or some combination of these, do take place and affect the amount of official short-term (i.e. compensatory financing) required to balance the current account items. If all these capital movements

3. *Balance of Payments Manual*, International Monetary Fund (Washington, 1950).

can be identified as "equilibrating" no problems are encountered. The difficulties of identification have been pointed out by Haberler[4] who states: "they (equilibrating capital movements) cannot be identified with short-term capital movements, as is sometimes done. For, on the one hand some short-term capital movements are of the spontaneous (disequilibrating) kind, and on the other hand long-term capital movements—at least if they are defined according to the nature of the credit instruments involved—are frequently of the equilibrating kind."

To distinguish between capital transactions that must be included in the balance of payments in order to judge whether or not equilibrium is attained, and those that must be excluded, two tests can be applied. The first is whether or not any short-term funds have been transferred for political or speculative reasons, i.e. "hot-money" transfers. The second is whether or not the capital transactions reflect a response to normal market forces. If they fail to meet these tests the capital movements will, apart from some special types of official transactions such as financing a surplus by voluntary repayments of public debt owed to foreigners, be "equilibrating". That is, they will represent movements undertaken to meet a deficit in the balance of payments of the recipient country, and so must be excluded if a meaningful deficit figure is to be obtained. They may take the form of a reduction in assets or an increase in liabilities or, when a surplus is achieved, an increase in assets and a decrease in liabilities (i.e. an inflow); but their distinguishing feature is that without a tendency for a balance of payments surplus or deficit they would not take place. Because of their nature "hot-money" transfers must also be excluded from the balance of payments for the purpose of establishing whether or not equilibrium exists.

In addition to these arithmetic adjustments to the balance of payments to disentangle the capital movements which balance the residual deficit or surplus, it is necessary to view a country's international transactions over some specific period of time, and in relation to domestic conditions and to the presence or otherwise of trade barriers, before an operative definition of equilibrium can be attempted.

Most definitions of equilibrium incorporate expressions such as a "persistent deficit" and a "given period", leaving to individual judgment the responsibility of determining when actuality fulfils theory. While legitimate, this allows for widely varying opinions and, although no all-embracing rules can be set out for defining the terms

4. "Currency Depreciation and the International Monetary Fund", Gottfried Haberler, *op. cit.*, p. 386.

"persistent" and a "given period", some guidance for policy-makers can be given.

If movements in international currency reserves, which reflect the balance of payments surplus or deficit after the necessary capital adjustments already outlined, are taken as the criterion of equilibrium or disequilibrium, the movements must be over a standard period. The relevant factors[5] in determining what is an appropriate or standard period are: (*a*) the major components of the balance of payments; (*b*) the presence or absence of marked seasonal movements; (*c*) the susceptibility of the balance of payments to "cyclical" fluctuations.

In discussing the balance of payments as a criterion for the equilibrium exchange rate, Nurkse[6] analyses the length of the period over which payments should be in balance if a given exchange rate is to be regarded as an equilibrium one. He concludes that "the period (to eliminate seasonal fluctuations) should certainly not be less than a year. But if we make it long enough to eliminate seasonal fluctuations, why not make it long enough to eliminate 'cyclical' fluctuations, as well? This would give us a period of between five and ten years. There are, however, countries (such as France or even England) in which the balance of payments normally shows no very marked cyclical behaviour, and, in these cases, it might be safe enough to take the balance of payments over a shorter period—say, two or three years—as an indication of equilibrium or disequilibrium."

It is obvious that the period should be at least a year so that seasonal movements can be covered, but it does not follow that it should be extended to between five and ten years. This may be satisfactory to the economic historian, but not to monetary authorities confronted with the need to determine whether a balance of payments deficit has been caused by the inception of a "cyclical" fall in prices, or is the result of temporary changes in the main items. A year could, quite conceivably, be too short. But a two-year period should give adequate time to judge whether factors causing a loss of reserves appear "persistent" and require remedying. Over a two-year period changes in the balance of payments could be caused by fortuitous circumstances unlikely to be repeated, the start of a "cyclical" fluctuation, inappropriate domestic policies, or permanent changes in foreign demand.

One year would be too brief to distinguish which of these factors were the most important; some historical perspective is needed. Any period, however, longer than two years would be too long for the

5. Factors (*a*) and (*b*) are of particular importance to countries exporting primary commodities.

6. "International Monetary Equilibrium", Ragnar Nurkse in *Readings in the Theory of International Trade* (Blakiston Company, 1949), p. 5.

reason that, unless substantial reserves were held, action would be necessary to halt the loss of reserves, and it would be difficult to distinguish the effects of such action from the effects that would occur had no action been taken.

The need to relate the balance of payments to domestic conditions and to commercial policies, when seeking a definition of balance of payments equilibrium, does not call for a lengthy explanation. Full employment is an over-riding economic and political objective. If foreign payments are reduced by measures that at the same time cause significant unemployment[7], the absence of a balance of payments deficit and a consequent loss of reserves cannot be considered an equilibrium position. Put another way, if internal equilibrium, defined as "a level of national income such as there is neither general unemployment nor an inflationary tendency for prices to rise"[8], is upset by measures that attain balance in international transactions, such a balance would not constitute equilibrium. Neither would the attainment of such a balance, with internal equilibrium, by the use of new direct controls over foreign payments or an increase in the severity of existing ones. Direct controls of whatever type—exchange controls, import quotas, prohibitions, licences or high tariffs—reduce the volume of foreign trade which would otherwise take place at the fixed exchange rate. Their use clashes with equilibrium in a normative sense.

With the wide use of direct controls during the inter-war and post-war periods it is, perhaps, legitimate to question whether the use of trade and exchange controls is alone indicative of disequilibrium. It is certainly more realistic to define balance of payments equilibrium in terms which preclude, during the period, either an increase in the severity of controls where they already exist or their adoption where they do not.

In the light of the discussion so far, the following is offered as an operational definition of balance of payments equilibrium. Balance of payments equilibrium can be said to exist when the difference over a two-year period, between a country's overseas receipts and payments, excluding "hot-money" transfers and movements of "equilibrating" short-term capital, is such that:

(*a*) an increase in existing, or the adoption of new, trade and exchange control measures, or

(*b*) deliberate and sustained deflation that causes significant unemployment,[9]

7. Say over 3% of total working force.
8. "Domestic and International Equilibrium", Ragnar Nurkse, op. cit., p. 272.
9. Say over 3% of the total working force.

is unnecessary to maintain an adequate[10] level of currency reserves[11] and to prevent marked changes in overseas short-term assets and liabilities.

The factors that may prevent realization of this condition of equilibrium, or cause a departure towards disequilibrium, may, assuming fixed exchange rates, be any one or a combination of: (*a*) differential rates of movement in incomes and prices, (*b*) sharp changes in the flow of foreign investment, or (*c*) "structural" developments such as shifts in consumer tastes and uneven rates of technological advance.[12] For countries such as Australia and New Zealand, which apply severe restrictions on private capital outflows and depend largely on "visible" receipts from primary products to finance overseas payments mainly for imports, the first of these factors is the most important.

It is the most important because variations in current account transactions sufficiently large to lead to disequilibrium will be confined to either import payments or export receipts or both. Price increases for imports with an inelastic demand or internal expansionary policies and a high income elasticity of demand could cause excessive import payments. Balance of payments pressure would be accentuated, and its relief handicapped, if higher imports were accompanied by lower export earnings owing to unfavourable price movements, depressed markets or greater competition. Thus any one of a complex of factors could produce a balance of payments deficit. If we assume the cause is reduced export receipts three immediate results will follow. Exporters' incomes will fall and eventually tend to reduce import payments; there will be a rise in commercial banks' local assets and/or a fall in their local liabilities; and thirdly, international currency reserves will diminish.

If the drop in incomes is judged to be incompatible with internal policy objectives (e.g. stable national income at full employment), the authorities may take action to offset the decline; i.e., they may increase domestic spending, allow currency reserves to fall, and resort to "stop-gaps" if the resulting level of reserves is "inadequate" or equal to some legal minimum.

During the period three major policy decisions must therefore be made. Firstly, it must be decided whether the deficit will reduce international currency reserves below an "adequate" level. If so it must be decided, secondly, what remedial measures are necessary and whether they conflict with other policy objectives; and thirdly, where some conflict is unavoidable, whether or not temporary "stop-

10. Discussed presently.
11. Some movement is to be expected.
12. See "Foreign Exchange Rate Theory and Policy", Arthur I. Bloomfield, op. cit., p. 305.

gaps" should be used to stretch out the effects of the more unpalatable remedies.

It remains to consider these points in more detail.

3. Adequate Reserves

The concept of what constitutes an adequate level of reserves is a difficult one.[13] While in almost all countries the type of assets the monetary authorities can hold as reserves is prescribed by law, which also ordains, in a number of cases, the minimum value of reserves that must be held, the legal prescriptions are incomplete guides.

In many instances legislation does not merely specify that gold may be held, but contains a provision to the effect that a certain value of required reserves must be held in gold. In other instances countries have to hold at least part of their reserves in gold, the rest in other types of assets, notably foreign exchange, but sometimes including foreign government securities or silver and contributions to the International Monetary Fund.

For international currency reserves to be a meaningful concept, it is therefore necessary to go past movements in required legal reserves and to include in a definition of reserves both monetary gold (coin and bullion) and foreign exchange holdings (central bank balances and other balances, subject to the disposition of the monetary authorities, convertible into gold or other foreign currency).

Where international transactions are financed not in foreign currency but principally in domestic currency (as in the case of the United States and to a less extent the United Kingdom), movements in official short-term liabilities should also be taken into account. In this analysis it is assumed that international transactions are settled in foreign currencies, which reflect the movements of balance of payments deficits.

Traditionally the functions of international currency reserves have been to maintain convertibility of domestic currency into gold, to maintain stable exchange rates and, through statutory reserve requirements to act as a check against inflation. With the changes in economic objectives—from the "state of the exchanges" to "monetary sovereignty" and internal equilibrium—that has occurred over the last twenty years or so, these traditional functions have changed. While exchange stability is regarded as desirable and reserves are still used to modify short-term fluctuations in rates, their

13. This paper was prepared prior to the release of the International Monetary Fund's analysis of *The Adequacy of Monetary Reserves* undertaken for the Economic and Social Council of the United Nations. Readers are referred to this study for a fuller and more authoritative analysis of the subject.

major function is now regarded as covering a balance of payments deficit.

The extent to which a deficit can be covered, before remedial and/or "stop-gap" measures become necessary, depends not only on the causes of the deficit, but also on what is regarded as an "adequate" or "safe minimum" level of reserves.

In assessing this level the statutory reserve ratio (of reserves to central bank liabilities) is an ineffectual and not very meaningful device. Not only would strict observance of the reserve requirements in times of exchange scarcity freeze a substantial amount of reserves at a time when they should be used, but it would also impede an "offsetting" policy and attempts to stimulate exports by measures that may temporarily raise import demand. It is probably for these or other reasons that at least twenty-one countries have no specific gold and foreign exchange reserve requirements, and that several Latin American countries have adopted radically different types of reserve requirements.

There are at least six principal factors which must be taken into account in determining an adequate level of reserves. Three relate to the balance of payments; three are more broadly related to over-all policy objectives. The first category comprises seasonal variations in foreign exchange receipts and payments, the possible range of surpluses or deficits over a two-year period as indicated by past experience and current trends, and the need for a basic reserve to cover contingencies.

In the second category the main factors are the relative importance of maintaining a given flow of imports despite lower receipts, the extent to which reserves accumulation for anti-cyclical use is considered necessary in prosperous times, and the type of measures the authorities are prepared to use to prevent or remedy serious deficits. If the continuance of a given rate of economic development is deemed more desirable than a reduction in capital expenditures to eliminate a deficit, larger reserves will be required. Similarly, the longer it takes for remedial measures to become effective, the greater will be the need for reserves.

It has been repeatedly stated in economic literature that agricultural nations require proportionately larger reserves than industrial ones, but that such nations, especially those with scope for substantial development, are less likely to curb needed imports to augment their reserves in times of prosperity. While the force of the arguments to support such statements cannot be denied, a number of factors are often ignored or under-estimated. For instance an agricultural, or raw material exporting country, enjoying a high level of export receipts and favourable terms of trade, is confronted with the diffi-

culty of deciding whether such a situation will be short-lived or will continue for a lengthy period. As recent experience shows, the former is the more likely alternative. Hence it must be decided whether it is wiser to use all current earnings for imports and obtain the maximum benefit from the terms of trade, or to build up reserves for use when export prices fall, and also when their real value may be less. Some protection against this latter eventuality is provided for in a number of countries by long-term commodity agreements, as well as by the greater awareness of the need for international co-operation to prevent prolonged, "cyclical" depressions.

In the light of the above discussion a tentative definition of adequate currency reserves can be formulated as follows. A country's reserves can be regarded as adequate when they are sufficient to cover a balance of payments deficit incurred over a two-year period, without being reduced to such a level, at the beginning of the following period, that changes in current levels of incomes and employment, prices and rate of economic development by fiscal and/or monetary measures are necessary to prevent any further deficits. If the prevention of such changes requires the adoption of new, or the intensification of existing, exchange controls, then, although the reserves may be maintained at an adequate level balance of payments disequilibrium exists.[14]

Just what amounts to an adequate level for a given country is therefore a matter of judgment by the authorities. The above definition is merely a framework within which a quantitative calculation, subject to continuous revision, should be made.

4. Remedial Measures

Before discussing various remedial measures for a balance of payments disequilibrium, it is well to recall the nature of the trouble for which a cure needs to be found. Balance of payments disequilibrium exists either when adequate currency reserves are held at the beginning of a given period only because of the adoption of, or increase in, exchange controls, or because of sustained deflation and unemployment, or reserves have been reduced to an inadequate level by factors that are likely to persist in the next period.

The type of remedial measure most suited to overcoming a balance of payments disequilibrium will depend not only on the nature and cause of the disequilibrium, but also on the extent to which correction of the disequilibrium will assist or impede other

14. This definition can be compared with Robert Triffin's description of "fundamental disequilibrium" as "a maladjustment in a country's economy so grave and persistent that a restoration or maintenance of satisfactory levels of domestic activity, employment, and incomes would prove incompatible with equilibrium in the balance of payments, if not accompanied by extraordinary measures of external defence, such as a change in the exchange rates, increased tariff or exchange control protection." National Central Banking and the International Economy. R. Triffin, *Post-war Economic Studies No. 7*, pp. 77, 78.

objectives of policy, and on institutional factors, such as the relative rigidity of wages and the actual powers of the monetary and fiscal authorities. Four broad types of remedial measures can be distinguished—fiscal, exchange, commercial and monetary.

By fiscal policy is meant action undertaken by the authorities for the purpose of affecting total domestic expenditure so that prices, incomes and employment are changed. Action may take the form of tax alterations and/or variations in government outlays.

The chief objective of fiscal policy in most countries is, apart from the raising of necessary revenues, the prevention of serious unemployment. Other objectives, such as raising average real incomes, promoting economic development and achieving balance of payments equilibrium, while inter-related, appear to be subsidiary to the full employment objective. Fiscal measures likely to be adopted during a period of falling export receipts may, therefore, take the form of expanded outlays or remissions of taxes. Such a policy is likely to worsen the deficit in the balance of payments. Hence if reserves are reduced below an adequate level, either the fiscal policy must be reversed or other measures must be adopted to protect reserves. Moreover, in primary producing countries it may prove difficult to direct offsetting expenditures to the exporters whose incomes have been reduced. An offsetting policy, however, coupled with other fiscal measures such as subsidies on exports, would be the appropriate policy for a sudden, serious deficit which is of a transitory nature.

During a period of inflation and high export prices, when the balance of payments is subject to pressure checked by exchange controls, a fiscal policy designed to produce a budget surplus would be an essential supplement to monetary policy, if the inflation was to be reduced and controls removed. Especially would this be the case in countries where government outlays comprised a substantial portion of total outlay.

Judging by events during the past two decades and the provisions of international agreements, it is true to say that exchange stability is one of the most important objectives of economic policy. Thus Article IV, Sec. 4, of the International Monetary Fund's Articles of Agreement states: "(*a*) Each member undertakes to collaborate with the Fund to promote exchange stability, to maintain orderly exchange arrangements with other members, and to avoid competitive exchange alterations".

There are a number of reasons for this concern with exchange stability. Foremost are the lessons of the inter-war period when exchange rates fluctuated constantly. It has been pointed out[15] that

15. *International Currency Experience*, League of Nations, Geneva, 1944, p. 210.

fluctuating exchanges involve three serious disadvantages — the creation of a risk element which discourages international trade, constant shifts of domestic resources, and the fact that "fluctuating exchanges cannot always be relied on to promote adjustment", because of the expectations of further changes to which they give rise. Equally important is the development of new objectives the achievement of which is aided by exchange stability, and the use of other measures to deal with balance of payments difficulties.

The objective of stable exchange rates does not preclude any necessary changes. It envisages stable rates in the short-run, and changes in the longer run only when necessary to correct an otherwise intractable balance of payments deficit. This is the view implicit in the Fund's provisions concerning rate alterations and corresponds with Nurkse's concept of devaluation as a "defensive measure".[16]

Once a country has decided on a devaluation as a means to correct a disequilibrium the infinitely complicated task of calculating the extent must be undertaken. In so doing the authorities will have to consider (*a*) the price elasticity of foreign demand for exports, (*b*) the elasticity of supply of exports, (*c*) the price elasticity of home demand for imports, (*d*) the foreign elasticity of supply of imports, (*e*) foreign and domestic income elasticities of demand, and the value of imports and exports.

The difficulties in measuring elasticities have been high-lighted in a number of studies.[17] But even where the elasticities are such that we can calculate a devaluation which would bring the balance of payments into equilibrium, other incalculable factors may intervene to affect the anticipated changes in exports and imports. The effectiveness, moreover, of devaluation as a corrective measure will vary according to the use that is made of exchange controls, and to the extent that other countries follow suit.

The practical difficulty of deciding on the extent of a devaluation necessary to remedy a balance of payments disequilibrium, the widespread shifts involved in the domestic economy, the considerable time required for benefits to emerge, and the belief held in many countries that more, not less, interference with economic motivations and freedom is desirable, all mean that devaluation can be regarded as a "last-line" measure. To revert to the definition of adequate reserves: if the maintenance of adequate reserves meant deflation, a corrective policy would probably include exchange devaluation. If their maintenance depended on controls of the maximum severity, remedial action for further deficits would include a devaluation,

16. "Domestic and International Equilibrium", Ragnar Nurkse, op. cit., p. 274.
17. See in particular *The Pattern of United States Import Trade since 1923*, Federal Reserve Bank of New York, May, 1952.

since the scope for further reductions in payments by selective controls would be narrow.[18]

The term "commercial policy" covers a wide variety of measures —tariff changes, use of commodity agreements, export subsidies and so on. The measures most likely to be used to prevent a loss of the currency reserves with which this paper is mainly concerned are exchange controls.

The two essential features of most exchange control systems are: (*a*) a requirement that all recipients of foreign exchange sell their exchange to the authorities in return for domestic currency, at specified rates of exchange, and (*b*) the distribution of the exchange to users according to various criteria determined by the authorities. The first feature is usually extended to include the right to acquire domestically owned foreign assets and exchange.

The exact methods of operation are many and varied. The International Monetary Fund distinguishes between three types of exchange restrictions—quantitative, cost and composite.[19] Individual allocations, prohibitions, multiple exchange rates and auctions of exchange certificates may or may not be the devices used for distributing the exchange. Whatever type is used the over-riding purpose is the prevention of a balance of payments deficit due to a tendency for the demand for foreign exchange, at a fixed rate, to exceed the supply. The potential deficit may arise from any of the factors mentioned previously, and it is important, in judging the efficacy as well as the justification for exchange controls, to distinguish the relative importance of each of the factors contributing to an overvalued exchange rate.

Apart from the general purpose of protecting the balance of payments, controls may be applied for a wide variety of reasons. The protection of local industries or exploitation of a monopolistic advantage are familiar ones. Others include a desire to induce savings by restraining consumption or merely to extend State controls to discriminate against certain countries, and to provide State revenue.

The use of exchange controls to prevent a fall in currency reserves is usually justified by a recital of their advantages occasionally accompanied by a less forceful recognition of their disadvantages. We may pause to recapitulate the main points for and against

18. These conclusions are tentative in view of such statements as:
"But no hard and fast rules can be laid down as to the precise conditions which should in any given case be considered to constitute a state of disequilibrium calling for depreciation." "Foreign Exchange Rate Theory and Policy", Arthur I. Bloomfield, *op. cit.*, p. 308.
"It must be confessed that economic knowledge is insufficiently precise to enable a scientific opinion to be expressed with any finality as to when or to what extent a currency should be devalued." "The Dollar Shortage", C. P. Kindleberger, (M.I.T. 1950), p. 213.

19. *First Annual Report of Exchange Restrictions*, International Monetary Fund, Washington, 1950, p. 3.

exchange controls. On the one hand it is stated that they can be applied quickly and selectively, are flexible and avoid (in the short-run) widespread domestic adjustments which would constitute greater disadvantages, in real terms, than the effects of the controls. On the other hand they involve considerable administrative work, interfere with the play of market forces since decisions to import are based, not on price considerations, but on indefinable criteria such as "relative essentiality", and can give only inadequate recognition to the dynamism of the economy. In addition they can provoke retaliation, stimulate rising prices unless reinforced with fiscal and monetary measures, and, finally, the economy tends to adjust to the control environment and their removal becomes increasingly more difficult. The list of disadvantages is formidable. What, then, are the circumstances in which the palliative of exchange controls is justified?

Firstly, they may be used, as sanctioned by the International Monetary Fund, to regulate capital movements. Secondly, if the causes of a severe deficit are only temporary it may be legitimate to use exchange controls until they have passed. Finally, their use would be justifiable when the alternative is severe deflation. The choice of measures to deal with a disequilibrium is not, however, restricted to controls versus deflation.

5. *Monetary Policy*

While monetary policy necessarily has other objectives[20] than the correction of a balance of payments disequilibrium, a number of countries have recently used monetary weapons for this purpose. This return to "monetary orthodoxy" contains some useful lessons for the other countries.

The definition of equilibrium excluded severe deflation. The following discussion does not, therefore, envisage the use of monetary techniques to avert or remedy a serious loss of reserves by a deflation that leads to unemployment. This does not mean that monetary policy should not be used for balance of payments purposes, it simply means that it must be used with care. A quotation from an article by Lord Balfour of Burleigh[21] expresses this idea concisely. "It is ridiculous to blame the monetary system for the mistakes of monetary policy which may have been committed in a past age. Such a view leaves out of account the revolutionary change in the

20. As for example the maintenance of monetary stability which can be defined "as a situation in which expectations of future changes in the general level of domestic prices are not a major determinant of investment and consumption decisions". This definition was given by David L. Grove in an article in the Philippines Central Bank News Digest, 15th May, 1952, p. 17.

21. "Controls, Physical v. Financial", Rt. Hon. Lord Balfour of Burleigh, *Lloyd's Bank Review*, London, July, 1952, p. 1.

climate of economic thinking since pre-war days, a change due very largely to the work of Lord Keynes. Given the revolution in economic thought, we are not condemned to the choice between inflation on the one hand and deflation and slump on the other. Both are disastrous. But there is open to us a middle course of a sufficient degree of monetary stability to secure a high level of employment coupled with stability in the value of the currency."

The methods used to strengthen the balance of payments position in a number of countries have, therefore, to use the modern and more euphemistic term, been "disinflationary" in character—designed to follow the middle course mentioned above. Thus central bank discount rates and reserve requirements of commercial banks have been raised, and interest rates allowed to move up. In addition selective credit controls have been tightened.

The objects of such monetary measures are to eliminate or reduce overall domestic demand so that imports would be reduced or at least prevented from increasing; exports would be maintained, or increased by a shift of resources to export industries, through relative price movements; and savings would be encouraged. The experience of such countries as Belgium, West Germany and to a smaller extent the United Kingdom provides recent evidence of the effectiveness of disinflationary policies.

The effectiveness of monetary policy largely depends on the actual scope for monetary measures, i.e. the existence of a highly organized banking system, a money market, a high degree of responsiveness to changes in interest rates, as well as the vigour with which it is put into effect, and the extent to which it is supplemented with, and not vitiated by, fiscal measures. If appropriate monetary measures can be used to correct a balance of payments deficit, the extent to which they will be used will depend on whether the deficit is caused by too high a level of demand for foreign exchange, or by a fall in supply. If the latter, the exact causes must be ascertained before a decision can be made as to whether disinflationary measures of a certain intensity are necessary.

In primary producing countries, with relatively small money markets and inelastic supply conditions for export goods, a disinflationary policy could be appropriate to correct a deficit caused by a rising level of payments, but would be the wrong policy, within limits, if a disequilibrium developed through reduced export receipts. In the latter case, the effects of the deficit would be to reduce the demand for imports via a primary deflation. Since the supply and range of exports goods cannot be quickly altered, a disinflationary policy may well prove detrimental rather than beneficial, unless the deficit was so great that reserves were reduced to well below an

adequate level. In fact, a policy of "offsetting" might be necessary, requiring an inflationary policy. A deficit, depending on its causes and size, may call for no action at all, a policy of "offsetting", or disinflation. In general, disinflation is more suited to the prevention than to the cure of a balance of payments disequilibrium in these countries. The monetary measures available consist of selective credit controls, and increases in the reserve requirements of commercial banks. The scope for such measures as bank rate changes is usually restricted.

6. *Conclusions*

A considerable portion of this paper was devoted to a discussion of the concepts of balance of payments equilibrium and adequate reserves. This was partly to clarify certain confusions, but mainly to find meaningful definitions. The definitions given are more realistic in an ex post than an ex ante sense. They do, however, provide terms of reference against which current trends in the balance of payments can be judged, and on which policy decisions can be based. These trends must be considered along with trends in other economic indices. Furthermore, the inter-relations between balance of payments equilibrium and other objectives of economic policy must be kept well to the fore, if economic principle is to overcome political prejudices. Some further general conclusions may be proffered as follows.

Since severe deflation and consequent unemployment is antithetical to generally accepted economic objectives, it is unlikely that balance of payments disequilibrium, as defined in this paper, would develop through the maintenance of adequate reserves by deflation. It is more likely to be indicated by either an inadequate level of reserves arising from factors which are liable to persist, or adequate reserves buttressed by exchange controls of mounting severity.

Internal inflation is the most likely cause of the first of these indicators. Appropriate fiscal and monetary policies should therefore be adopted to curb the demand for imports and to stimulate exports. But owing to other objectives (such as the "welfare" State), such measures may not be sufficiently severe to achieve the necessary correction. A continued fall in reserves may therefore be stopped only by a devaluation.

Since exchange stability is a major objective, since effective devaluation has to be "once and for all", and since there are difficulties in determining the extent of devaluation necessary in any given situation, monetary policy assumes importance as a way to prevent the need for other than moderate, and infrequent, devaluations. But in the extreme case where a balance of payments dis-

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equilibrium exists because reserve adequacy is achieved by deflation, the appropriate remedial measures would include both fiscal and monetary "offsetting", and devaluation.

A policy of "offsetting" falls in exporters' incomes will only be practicable if special reserves are held for such a purpose. It has limitations; while it can cushion a fall in incomes it does nothing to correct the causes of the fall.

Since the other (i.e. non-balance of payments) objectives of exchange controls can be achieved equally well by other means, the use of controls can be justified only by reference to the balance of payments, and then only if they are to prevent irregular capital movements; to meet a temporary loss of reserves; or to give time for remedial measures to have effect.

Nevertheless, until the relative advantages of measures other than exchange controls have been conclusively shown by developments over a period of time, it seems that their use will be continued on the grounds that their effects are more tolerable. To prove otherwise requires constant re-emphasis of the distinction between real and money incomes, of the need for monetary stability and of the desirability of policies that operate through, rather than cut across, the price mechanism and market forces.

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ECONOMIC ASPECTS OF THE INTERNATIONAL WHEAT AGREEMENT OF 1949

1. Objectives.

The primary objective of the International Wheat Agreement of 1949[1] was ". . . to assure supplies of wheat to importing countries and markets for wheat to exporting countries at equitable and stable prices". There were no restrictive provisions in the Agreement. Exporting and importing countries were free to fulfil their obligations under the Agreement through private channels or otherwise. The I.W.A. did not attempt to eliminate the price mechanism completely. Only the I.W.A. guaranteed transactions had to be undertaken within the I.W.A. price range, irrespective of the fluctuations in the world market price. Indeed, "in order to overcome the serious hardship", the Agreement implied an attempt to stabilize wheat growers' income. Essentially, there were three determinants of the effectiveness of the I.W.A. method of income stabilization: the permitted range of I.W.A. price variation, the guaranteed I.W.A. transactions and the fluctuations in the "free" export price. The reduction in the variation of wheat growers' income, as a result of the I.W.A., was the greater, the narrower was the permitted range of I.W.A. price variation, the greater were the guaranteed I.W.A. transactions and the smaller were the fluctuations in the "free" export price, and vice versa. On the whole, the I.W.A. was a multilateral bulk contract. It was a marketing scheme with none of the objectionable restrictive features that characterized pre-war commodity agreements.

2. Prices and Guaranteed Quantities.

As indicated above, the I.W.A. price range and the guaranteed I.W.A. transactions formed the essence of the I.W.A. The prices were in Canadian currency per bushel at parity for the Canadian dollar, determined for the purposes of the International Monetary Fund as at March 1, 1949, for No. 1 Manitoba Northern wheat in bulk in store Fort William/Port Arthur. They excluded such carrying charges and marketing costs as might have been agreed between the buyer and the seller.

The guaranteed purchases of an importing country represented the maximum quantity of wheat which that importing country might have been required by the Council to purchase from the exporting countries at prices consistent with the minimum prices, or the exporting countries might have been required by the Council to sell to that

1. Commonwealth Act No. 21 of 1949.

importing country at prices consistent with the maximum price.[2] A similar provision applied to the guaranteed sales.

There has been a great controversy about the economic implications of the above provisions. The general criticism has been that the Agreement tended to keep the "free" export price at a high level. In this situation, the I.W.A. price did not fluctuate within the permitted range of price variation but remained at the I.W.A. maximum throughout the currency of the Agreement. Did this situation originate in men's inability to forecast the future movement of prices? Was it due to international inflationary tendencies? Was it due to purchases of wheat for export under the Marshall Plan? Or, finally, was it inherent in the I.W.A. itself?

The answer to this problem is by no means simple. The most obvious result of the Agreement is that it divides the world market into the "guaranteed" I.W.A. market and the "free" marginal market. Since the I.W.A. market transactions are "guaranteed", a change in total world supply or demand for wheat does not affect the I.W.A. market. At the same time, a change in total world supply or demand is magnified in the "free" marginal market. Throughout the currency of the Agreement world demand seems to have been relatively stable. On the other hand, world supply tended to increase. In this case it would have been reasonable to expect a strong tendency for the "free" price to become lower. On the contrary, the "free" export price was relatively stable and above the I.W.A. maximum. This phenomenon is shown in Table I. Consequently, what has to be explained is not why the "free" export price was above the maximum but why it was so "stable". After all, the "free" export price was above the agreed maximum even before the advent of the I.W.A. of 1949. To advance in the argument, another implication of the Agreement has to be considered. This implication is the impact of the Agreement on the elasticity of world supply and demand for wheat outside the Agreement's permitted range of price variation.

On the demand side, when the price is above the I.W.A. maximum, importing countries tend to demand more wheat than they would have, had the Agreement not been in operation. In effect, they have received a "subsidy" on their guaranteed purchases. The decrease in demand elasticity at prices above the I.W.A. maximum is essentially due to the sum of income and substitution effects. Both these effects are positive. The "subsidy" actually raises consumers' "real income". This effect is similar to an increase in income. Since for the majority of consumers resident in importing countries wheat is not an inferior commodity, the positive income effect seems to be significant. The "subsidy" also implies a decrease in the relative

2. The maximum price was $1.80; the minimum was $1.50 in the first year of the I.W.A. and it decreased by 10 cents in each subsequent year.

TABLE 1.

"FREE" EXPORT AND I.W.A. PRICES.

Based on: Commonwealth Economic Committee: Grain Crops (1952).
U.S. Department of Commerce: Statistical Supplement to the Survey of Current Business (Aug., 1953).
Data supplied by the Dominion Bureau of Statistics (Ottawa).
Data supplied by the Bureau of Agricultural Economics (Canberra).

Year (August-July)	(1) "Free" Export Average Price	(2) I.W.A. Average Price	(1) - (2)
AUSTRALIA (pence per bushel)—f.a.q. wheat			
1949-50	222·0	183·2*	38·8
1950-51	224·0	193·0*	31·0
1951-52	249·0	193·0*	56·3
1952-53	241·0	193·0*	48·0
CANADA (Canadian cents per bushel)—No. 1 Manitoba Northern			
1949-50	219·0	195·0*	24·0
1950-51	212·0	varied with the U.S. exchange rate	
1951-52	233·0	" " " " " "	
1952-53	217·0	176·0*	41·0
U.S.A. (U.S. cents per bushel)—No. 1 Dark Spring			
1949-50	237·0†	180·0	57·0
1950-51	246·0†	180·0	66·0
1951-52	251·8†	180·0	71·8
1952-53	251·0†	180·0	71·0

* The maximum was affected by devaluations. This problem is discussed under Section 3 of this essay.
† July-June.

price for wheat. There is a tendency to substitute wheat for alternative commodities.

On the supply side, the exporting countries tend to supply less wheat at any price above the I.W.A. maximum. They in effect pay a "tax" on their guaranteed sales. The decrease in supply elasticity is the result of the sum of negative "consumption" and "production" substitution effects and smaller positive "consumption" income effect. The "tax" actually tends to decrease wheat growers' "real income". This "loss" of income can be partly made good by wheat growers by supplying more wheat and by consuming less of it as stock feed. On the other hand, since the "tax" implies, *cet. par.*, lower relative prices for wheat than for other commodities, there is a tendency to supply less wheat and consume more of it for stock feed. The decisive factor is what can be termed the "production" substitution effect. Because the "tax" implies, *cet. par.*, lower relative prices received for wheat than for other rural products, there is a strong tendency to substitute production of alternative rural products for production of wheat.

Under Section 1 of this paper, the principles with respect to income stabilization were mentioned. These principles may be incorporated in the argument. It was stated that the narrower the permitted I.W.A. range of price variation, the greater the degree of income stabilization. On the other hand, the greater the I.W.A. guaranteed quantities, the greater the degree of income stabilization. The greater the degree of income stabilization, as determined by the above, the greater the reduction in elasticities of the demand and supply schedules. It must not be forgotten that the Agreement operated in a situation where, paradoxically enough, it stabilized income to the advantage of importing countries, that is, consumers. Consequently, the above-mentioned changes in elasticities are consistent with the implications of the Agreement with respect to income stabilization.

The result of the above changes in elasticities was that the "free" export price tended to be higher with the Agreement in force than it would have been in its absence. It is on these premises that most of the economists blame the Agreement for the high "free" export price. But considering the above-mentioned underlying conditions of supply and demand, on the same premises the Agreement can be "blamed" for the remarkable stability of the "free" export price. It may be true that the initial low I.W.A. maximum exerted its pressure on the "free" export price in the upward direction, but the change in supply tended to work in the opposite direction in the "magnified" marginal market.

3. Currency Aspects.

The currency problems in international trade can frustrate the most diligent attempts at co-operation. No contract can be successful unless the parties are able to fulfil their monetary obligation. Also the primary effect of the Agreement on the economies of the participating countries is through the balance of payments. Space permits consideration of only two of the important problems, that is, the results of devaluation and the dollar problem.

In September, 1949, the Canadian dollar was devalued from parity with the U.S. dollar to $0.90 (U.S.). The question arose as to whether the price limits of the Agreement would remain the same as originally stated. The executives of the International Wheat Council decided that the prices set were related to the price of gold in terms of Canadian currency. The price of gold increased owing to the devaluation of the Canadian dollar, and the I.W.A. prices automatically increased. This result was rather unexpected for those concerned, although it should not have been so, as it is quite explicit in the Agreement.

It is interesting to observe that the above interpretation of the I.W.A. provisions did not affect the price under bilateral contracts "outside" the Agreement, such as the U.K.-Canada Wheat Agreement. Also, the I.W.A. limits expressed in terms of the U.S. dollar remained the same.

Following the devaluation of the English currency, Australia devalued her currency in September, 1949. As a result, Australia secured a higher maximum equivalent. In fact, a devaluation in any of the exporting countries would have resulted in higher equivalents for such countries.

The amount of dollars available to the importing countries is a fundamental consideration. Dollar wheat was a very significant proportion of world imports. In 1949-50 the share of dollar wheat in total world imports was 70·2 per cent., in 1950-51 it was 65·9 per cent., in 1951-52 it was 82·1 per cent., and in 1952-53 it was 77·4 per cent. The importance of dollar wheat is still more obvious when the share of dollar wheat in the I.W.A. transactions is considered. Table 2 in this respect is self-explanatory.

TABLE 2.

IMPORTANCE OF DOLLAR WHEAT UNDER I.W.A.

(in 1,000 metric tons)

Based on: Commonwealth Economic Committee: Grain Crops (1952). International Wheat Council: Report No. 57.

	1949-50 (Aug.-July)		1950-51 (Aug.-July)		1951-52 (Aug.-July)		1952-53 (Aug.-July)	
	Actual I.W.A. Exports	%	Actual I.W.A. Exports	%	Actual I.W.A. Exports	%	Actual I.W.A. Exports	%
Dollar Wheat—								
Canada	5,047	42.9	5,196	36.0	6,575	42.3	6,277	40.4
U.S.A.	4,424	37.6	6,775	46.9	6,948	44.6	6,834	43.8
Total	9,471	80.5	11,971	82.9	13,523	86.9	13,111	84.2
Other Wheat—								
Australia	2,199	18.7	2,375	16.4	1,939	12.4	2,365	15.2
France	90	0.8	106	0.7	111	0.7	92	0.6
Total	2,289	19.5	2,481	17.1	2,050	13.1	2,457	15.8

The dollar problem with respect to the I.W.A. emerged first in the form of a potential threat that wheat might be declared "surplus" by the U.S. Government. This was an important factor in coercing Britain and other importing countries under the Marshall Plan to compromise on the I.W.A. prices at the Washington Conference. But under the Agreement, any importing country could have asked the International Wheat Council to consider the necessity of safeguarding its balance-

of-payments or monetary reserves. In the extreme case, such a country could have been relieved of its guaranteed quantity for the relevant crop-year. This provision of the Agreement was never tested. The E.C.A. authorities became quite liberal with respect to dollars made available for international wheat purchases.

Yet the dollar problem appeared still in another form. It tended to prevent expansion of trade under the Agreement. Thus Britain opposed the accession of Germany and Japan because of the fear that these countries might become potential competitors for sterling wheat available under the Agreement. Only after an unofficial undertaking on the part of the German Government, that Germany would not purchase more than 5,000,000 bushels of sterling wheat a year, did Britain vote in Germany's favour. Japan, with a small quota, was admitted in 1951 when Britain's dollar position was better.

4. Buffer Stocks instead of I.W.A.?

It is interesting to consider whether it would have been feasible to have had buffer stocks instead of the I.W.A. of 1949. Would an internationally directed agency, organized and equipped to purchase unlimited quantities of wheat at the minimum price and to sell unlimited quantities of wheat at the maximum price in order to mitigate fluctuations in wheat prices and in the income of wheat growers, have survived in the market situation which persisted throughout the currency of the Agreement?

Assuming that the above agency would have adopted the price limits of the I.W.A. of 1949, a persistent decumulation of stocks held by the Agency would have ensued. Sooner or later this would have resulted in a collapse of the Agency's control over the market.

The dollar shortage would have been another factor which would have caused this alternative to fail. If the Agency had been financed with dollars, exporting countries might have preferred to sell to the Agency at the minimum prices rather than to sell for inconvertible currencies at higher prices. The danger of stock accumulation would have been ever-present. Of course, it could have been decided to sell for inconvertible currencies at some higher prices. The result of this action would have been that the original dollar fund would have assumed the form of inconvertible currencies. Only some international currency agreement could have saved the situation.

But let it be assumed that the Agency had been at first really successful. In this case success itself might have generated a failure. Supply of wheat might have become "excessive", especially if buffer stocks in wheat had been the only scheme of this kind in farmers' produce. If the above had been the case, the only possibility of defending the Agency would have been a drastic adjustment in its prices.

This would have caused unnecessary hardship. This hardship would not have been tolerated by any interested authorities.

Finally, it must be realized that it would not have been practicable to start the Agency with many important "outsiders". The existence of many domestic interferences and controls would have hampered the operations of buffer stocks considerably. Considering the possibility of political interferences and continuous criticism, especially by exporting countries, the I.W.A. was, in the prevailing economic situation, a less ambitious but a better plan.

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AUSTRALIAN OVERSEAS LIQUIDITY, 1870-80

1

This article is part of a larger investigation into the failure of the Australian economy to move in sympathy with British economic fluctuations during the eighteen-seventies. The purpose here is to provide an index of, and to account in general terms for, the consequential major crisis in Australian overseas liquidity.

During the 1870's Britain was, by far, Australia's dominant consumer of exports and supplier of imports. Over 70 per cent. of Australian trade was handled in Britain, and an extremely high proportion of the export and import trade passed through the hands of British merchants. These links imposed intimate relations between the state of the Australian economy and the level of British prosperity.

Accordingly, in speaking of Australian external economic relationships, we may reasonably concentrate attention on the condition of the domestic economy in Britain. A continental and American boom, following the Franco-Prussian war, kept British industry overoccupied from 1871 to 1873. When this boom collapsed in 1873, readjustments occurring in home and foreign investment, in the iron and steel industry, and in the level of international industrial competition averted severe deflationary consequences; this cushioning lasted in Britain until 1877, when a major slump caused heavy unemployment and severe contraction of output. Rostow thus describes these early years of the so-called "Great Depression": "The famous depression in Great Britain of the 1870's, traditionally regarded as a period of unrelieved economic decline and difficulty, in fact falls into two quite distinct parts. The first, embracing the years 1874-77, is marked by maintained or slowly rising levels of production, with activity at home compensating losses, direct and secondary, due to the cessation of railway building and other new development in America and elsewhere. In the second, from the last quarter of 1877 to the middle of 1879, output in almost every branch of trade declined and unemployment rose to severely high levels."[1]

Available evidence suggests that the Australian economy did not share this British experience. After the uncertainty of 1870, the seventies in the colonies were years of unbroken expansion and prosperity. Until 1878 growth was very rapid. Thereafter a brief recession represented the only Australian acknowledgement of a major British slump. Rapid growth was resumed in 1880, carrying Australian output within the next two or three years to what may well have been the peak level in the whole of the nineteenth century.

1. W. W. Rostow, *British Economy of the Nineteenth Century* (Oxford, 1949), p. 179.

In theoretical terms, when a colonial economy moves out of step with its "parent" economy there are strong pressures operating to eliminate the divergence. That is, forces operate on the dependent economy to produce parallel movements in exports and imports. Correction would come by way of (1) changes in overseas liquid reserves, (2) gold flows, and (3) pressure on exchange rate equilibrium. Regardless of the institutional mechanism which actually causes the adjustment, the colonial economy will be affected and brought into line unless there is some compensating factor confining the mechanism to temporary movements. For example, under the "gold standard" an outflow of gold will normally reduce bank reserve ratios and raise the rate of interest. A higher rate of interest will affect some industries where the marginal efficiency of capital will then be less than the rate of interest. Activity will be reduced by way of small investment outlay, and the contraction of income will reduce the demand for imports. But capital inflow through the banking system could compensate the gold outflow or prevent it altogether, and leave economic activity unaffected.

Here, attention is confined to the development of an Australian overseas liquidity crisis and the background of this crisis. As a short article is inadequate for full discussion and explanation, the aim is to provide an index of Australian liquidity, and to study its variations, for the period 1870-80.

2

The estimates of Australian liquid assets in the period 1870-80 revive methods discussed by K. S. Isles and R. Wilson[2] in attempts to calculate Australia's London funds for the twentieth century. Their method relies on a special break-up of Australian banking statistics. Following this precedent, "London Funds" are treated as those assets held abroad by the Australian banking system *without corresponding liability* to overseas persons or institutions.[3] In view of the concentration of Australian trade and financial relations on Britain, movements of these London Funds may be regarded as approximating the general overseas liquidity position of the Australian economy.

2. K. S. Isles, "Australian Monetary Policy", in *Economic Record* VII, 1931, pp. 1-17. This was reviewed by R. Wilson on pp. 195-215 of the same volume.

3. This measure has limitations in the 'seventies, particularly because the capital imported as British investors' deposits with the Australian banking system in London is excluded, whereas such deposits might reasonably be regarded as adding to Australian liquid assets. British deposits may be separately calculated (Table IV) but the rather violent fluctuations arising from public loan raisings make interpretation difficult. In any case, they do not counteract the main trend visible in "London Funds", provided we make allowance for the loan element. Including these deposits arrests the decline in the middle years of the 'seventies.

The other major trouble arises with Australian debits and credits not registered in the banking accounts. Whatever may be the importance of these it is unlikely that their relative significance altered greatly in the 'seventies.

Two sets of banking statistics are available. One appears in the form of quarterly averages of note-issuing banks, covering operations *within* Australian colonies. The other is supplied in half-yearly balance-sheets of the same banks, covering their operations in the colonies and *overseas*. An estimate of London Funds is made by subtracting the excess of assets over liabilities in colonial banking returns from the excess of assets over liabilities in balance-sheets. For the rationale of this calculation, readers should consult the earlier controversy between Isles and Wilson.

Four separate calculations of London Funds were made to estimate overseas liquidity. These serve partly to settle the unresolved Isles-Wilson controversy, but partly are required because of certain complications in banking statistics. The returns of banking operations within the colonies are *averages* for each quarter of the year. None of the balance-sheets corresponds exactly with these returns. First, the balance-sheets represent the results of operations at particular dates and are not averages. Second, the dates of balance-sheets are not uniform for all banks. Some banks presented half-yearly balances in March and September, others in June and December, and three banks published only annual balances.

No particular method of calculation can cope with these difficulties. A complete set of four calculations was made for purposes of cross-checking. The four methods are:

(*a*) Following Isles, a calculation of half-yearly estimates for London Funds. Here, December-March-June colonial returns (quarterly averages) are subtracted from December-March-June balance-sheets to give results for the June half-year. For the December half-year, the colonial averages for September-December are subtracted from September-December balance-sheets (Table 1, Col. A).

(*b*) Following Wilson, a calculation of half-yearly estimates for London Funds. But only one date of colonial returns is used to subtract from balance-sheet material. Thus, June colonial returns are subtracted from December-March-June balance-sheets for the first half-year, and December averages from the September-December balance-sheets for the second half-year (Table I, Col. B.)

(*c*) A modification of the Wilson method was tried which involved averaging balance-sheets so that all balance-sheets referred to June or December. Those three banks which presented balance-sheets only in December were eliminated from the June calculations. Thus, for June half-yearly totals, June colonial averages were subtracted from June balance-sheets (derived by averaging). (Table II, Col. C.)

(*d*) For December estimates corresponding to the June totals of method (*c*) there was no need to eliminate the three banks.

TABLE I

	Column A (a) £'000		Column B (b) £'000
1870 June	198	..	757
December	618	..	789
1871 June	1303	..	1430
December	1599	..	1605
1872 June	3537	..	3893
December	3151	..	3118
1873 June	3409	..	3668
December	2155	..	1648
1874 June	2139	..	1812
December	1437	..	1498
1875 June	2084	..	2069
December	1157	..	1193
1876 June	2225	..	2238
December	677	..	377
1877 June	918	..	782
December	—124	..	—213
1878 June	127	..	—308
December	—1496	..	—1172
1879 June	—272	..	—296
December	—486	..	—185
1880 June	1738	..	2348
December	4787	..	5660

(a) Colonies: December-March-June etc. Balance-Sheet: December-March-June etc.
(b) Colonies: June etc. Balance-Sheet: December-March-June etc.

TABLE II

	Column A (a) £'000		Column B (b) £'000		Column C (c) £'000
June 1870	757	..	198	..	1023
1871	1430	..	1303	..	1313
1872	3893	..	3537	..	3268
1873	3668	..	3409	..	2847
1874	1812	..	2139	..	1708
1875	2069	..	2084	..	1842
1876	2238	..	2225	..	1965
1877	782	..	918	..	1009
1878	—308	..	127	..	114
1879	—296	..	—272	..	256
1880	2348	..	1738	..	2520

(a) Colonies: June. Balance-Sheet: December-March-June.
(b) Colonies: December-March-June. Balance-Sheet: December-March-June.
(c) Colonies: June. Balance-Sheet: June (excluding 3 banks).

December colonial averages were subtracted from (average) December balance-sheets. (Table III, Col. C.)

A further complication arises with all methods. Many N.S.W. banks, and some Queensland banks, when furnishing their returns of operations within the Colony, grossly inflated "balances due from other banks" by including other branches of their own banks, situated

TABLE III

	Column A (a) £'000	Column B (b) £'000	Column C (c) £'000
Dec. 1870	789	618	751
1871	1605	1599	1623
1872	3118	3151	3137
1873	1648	2155	1717
1874	1498	1437	1514
1875	1193	1157	1214
1876	377	677	408
1877	—213	—124	—69
1878	—1172	—1406	—1167
1879	—185	—486	—179
1880	5660	4787	5678

(a): Colonies: December. Balance-Sheet: September-December.
(b): Colonies: September-December. Balance-Sheet: September-December.
(c): Colonies: December. Balance-Sheet: December.

in another colony, in this category. For the Bank of N.S.W. the category "balances due from other banks" frequently exceeded £2m., almost equalling advances in the colony! The distinction has been eliminated on the ground that "balances due" should be sensitive to the level of economic activity, and therefore fluctuate with bank advances. We therefore find the average ratio of "balances due" to "advances" in Victoria for 1870-80 on the assumption that "balances due" bear roughly the same ratio to advances in Victoria as in New South Wales and Queensland.[4] The product of this ratio and the advances of "offending banks" in New South Wales and Queensland gives a revised estimate of "balances due from other banks". An "offending bank" is defined as one whose ratio ("balances due"/ advances) exceeds the maximum ratio of that year for any bank in Victoria.

The results of these calculations are presented in Tables I, II and III below. One conclusion emerges: for empirical purposes there is little, if anything, to choose between Wilson's or Isles' methods.

In later sections we shall concentrate upon those estimates derived by Isles' method. That is, the figures discussed will be those in Table I, Col. A.[5]

3

From these estimates of London Funds there are three reasonably certain inferences to be drawn. In the first place, there was a marked

4. This is 2.166 per cent.

5. One interesting difference appears in a comparison of 1878-9 in Cols. A and C of Table II. Col. C excludes those three banks that presented balance sheets only in December: the Bank of Adelaide, the Bank of Australasia and the London Chartered Bank of Australia. Two were banks with headquarters in London. The plunge into "negative funds" in 1878 has been caused largely by these banks, presumably because they were operating on finance bills drawn on English Joint Stock Banks. This serves to emphasize the rather shadowy nature of overseas liquidity reserves in the 'seventies.

cyclical decline in London Funds extending from 1872 until 1879. About £5m. of Australian banking reserves were used in this period to meet Australian external obligations. Secondly, there is a series of short-run fluctuations, sometimes of two-year duration, superimposed upon this longer-run cyclical movement. And thirdly, there is a seasonal drain in the December half-year which is replenished by wool receipts during the London selling season of the first quarter. This discussion will be limited to the first two conclusions.

As a first step toward explanation of movements in London Funds we concentrate on short-run behaviour. Out of the short-run emerge those factors dominating the longer period. In studying divergent movements between two economies in the seventies, this longer period is of paramount concern, but the following argument is a necessary preliminary.

Some progress toward explaining the decline of overseas liquid reserves is achieved by subdividing the original balance-sheet and colonial material. Rather than handle *total* assets and liabilities, individual components of these totals can be subtracted to leave deposits, advances, cash reserves, etc., to the credit or debit of Australian banks in London. Precise results are precluded by dissimilar classifications, but the following broad classes are useful.

(a) Deposits—both interest and non-interest bearing.
(b) Circulation—notes in circulation, bills payable and bills in circulation.
(c) Advances—bills receivable, notes and bills discounted, Government securities, and "all other debts due to the bank".
(d) Cash—a net figure of gold, coin, notes and bills of other banks, *less* balances due to other banks, i.e. all immediately realizable assets.
(e) Property—bank premises and other property owned by the corporation.

The results of this subtraction, described as "activities in Britain of the Australian banks", are given in Table IV.

To simplify the discussion of these figures, movements of London Funds are classified in five periods. For each of these Table IV shows those banking procedures causing fluctuations in the Funds.[6] The following conclusions were reached after reviewing this material in the light of current economic behaviour.

Period I: June 1870 to June 1872—*London Funds increase £3½m.*

Deposits	+	£400,000	Advances	+	£2,600,000
Circulation	—	£500,000	Cash	—	£600,000

6. Changes in the property classification may be ignored.

TABLE IV

ACTIVITIES IN BRITAIN OF THE AUSTRALIAN BANKS

	Deposits £'000	Advances £'000	Circulation £'000	Cash £'000	Property £'000
1870 June	2672	5801	5511	2500	74
December	3197	5924	4814	2633	71
1872 June	2603	5509	5072	3391	94
December	2920	6024	5177	3610	83
1872 June	3071	8427	4967	3086	68
December	3003	9095	5669	2530	92
1873 June	3019	8744	6175	3763	79
December	3099	7851	6164	3502	57
1874 June	2548	8983	7541	3185	64
December	3261	7622	6314	3291	103
1875 June	3851	9338	7126	3652	106
December	3512	9215	7716	4122	67
1876 June	4542	9277	6819	4207	102
December	5636	8843	7472	4881	65
1877 June	6156	9954	7343	4375	81
December	4800	8152	7611	3994	155
1878 June	5010	9069	7462	3401	128
December	6552	8620	6904	3265	166
1879 June	4934	8095	7795	4319	146
December	8201	12047	7933	3476	115
1880 June	6636	10593	7121	4747	120
December	7964	14957	6714	4387	234

While there was a large increase in export credit, import finance declined.

Period II: June 1872 to Dec. 1873—*London Funds decline by £1½m.*

Deposits	no change	Advances	— £500,000
Circulation	+ £1,200,000	Cash	+ £400,000

An increase in trade bills drawn on Australian importers and accepted by Australian banks in London (but still circulating) dominated the decline. There was also a fall in export credit.

Period III: Dec. 1873 to June 1876—*London Funds steady.*

Deposits	+ £1,400,000	Advances	+ £1,400,000
Circulation	+ £600,000	Cash	+ £700,000

The deposit item is raised by British investors depositing funds in Australian banks. Both import and export finance increase. The increase of the latter, in view of decline in the previous period, suggests that short-term banking operations distorted the picture in Period II during the British financial crisis.

Period IV: June 1876 to Dec. 1878—*London Funds decline £3½m.*

Deposits	+ £2,100,000	Advances	— £700,000
Circulation	+ £100,000	Cash	— £900,000

The deposit of investments funds continued; but there was a decline in export finance and an outflow of cash, despite rising deposits. This was largely caused by "British Australian" banks drawing on London banks: "Should the accumulated funds lying in London from Australian exports be insufficient to offset the demand in Australia for bank drafts on London to pay for imports; in other words, if imports exceed exports, so that London balances are exhausted, the excess of drafts sold in London would be technically finance bills, for the Australian banks would be drawing on the credit of the London banks (assuming the latter institutions were agreeable) until such time as there was again a surplus of exports over imports sufficient to provide a balance in London to liquidate these credits".[7]

Period V: Dec. 1878 to Dec. 1880—*London Funds increase £6½m.*

Deposits	+ £1,400,000	Advances	+ £6,400,000
Circulation	— £200,000	Cash	+ £1,100,000

As in the initial period, rising export credit was the significant factor in recovery. Import finance falls. Gold shipped from the colonies probably added to cash holdings in London.

This approach illustrates the importance of trading operations in fluctuations of Australian overseas liquidity. Other factors affected London Funds but further refinement of the subdivision is required to assess these adequately. The data, for example, cannot isolate factors causing "cash" to fluctuate, or divide "advances" into long and short-term bills.

These are serious weaknesses which cannot be overcome using published material. Careful study of private bank-papers may give precision, but they are not available. Export receipts and import payments dominated liquid reserves in London. Other factors are discussed in the following section where material already presented can be used to check their importance.

4

Movements in London Funds during the 1870's can be traced to the balance of trade. An extremely rapid expansion of export earnings at the beginning of the decade improved liquidity until prosperity raised the level of imports and stopped the accumulation of funds. Export values ceased rising in 1873 although demand for imports increased until 1878. London Funds were therefore declining to 1879-80, when liquidity was restored by the reverse situation of increasing exports and diminishing imports.

In Period II London Funds declined when there was a surplus balance of trade, but otherwise there is close correspondence between

7. H. E. Teare, *The History, Theory and Practice of Australian Banking, Currency and Exchange* (Sydney, 1926), p. 193.

overseas liquidity and trade. As this period embraces the world financial panic of 1873, short-term banking operations may have distorted the picture of Australian liquidity.

But movements in overseas reserves cannot be fully explained by reference to the balance of trade, for exports and imports are determined by other economic variables. The level of private and public capital import, private and public investment, and general prosperity determined fluctuations and trends in imports and exports.

Public loans raised on the London market exceeded £32m. in the decade, and were therefore an important source of foreign exchange (Table V). Contraction of loan receipts aggravated downward movements in overseas liquidity in 1873 and 1877-8, for governments required a steady flow of sterling to meet recurring items in the balance of payments, for example, purchases of railway equipment, expenditure on immigration, and interest on public debt.

Colonial governments were not bankrupt in 1873, but they lacked funds in London, since additional loan subscriptions were small. They therefore purchased drafts in Australia and consequently drew on bankers' reserves in London and reduced overseas liquidity.

Pressures on liquidity were eased by large-scale borrowing in 1876 which was more than adequate for colonial needs; but governments purchased London reserves in 1877-8 when an adverse market frustrated their intentions to borrow. As these were the most difficult years experienced by bankers in this decade, government borrowing activity again magnified disturbances in the balance of payments. Gold was shipped to meet the deficit caused by depressed exports, falling loan receipts and a prosperity level of imports.

Private capital import played a secondary part to public borrowing, but caused similar difficulties because capital was withdrawn during the liquidity crisis of 1877-9. This conclusion is based upon movements of British deposits given in the "deposits" column of Table IV, which are, at best, very rough approximations to capital flow. One difficulty is that government deposits from new loans cannot be isolated. From 1874 to 1880, but chiefly in the early and later years, between £3m. and £5m. was deposited with Australian banks having branches or agencies in Britain. Coghlan estimates that private capital import exceeded £13m. in the decade, but this aggregate cannot be allocated to individual years. Private capital inflow was therefore far below the £32m. borrowed overseas by colonial governments.

The effect of investment expenditure on the balance of payments and balance of trade was the opposite to that of capital import, for capital outlay raised the demand for imports and therefore reduced overseas liquid reserves. When a government built new railway lines

it purchased rolling-stock and other equipment on an overseas market, thus increasing imports of capital equipment. And liquidity was further reduced by purchases of imported food and clothing from the wages of labour employed on railway construction.

Although expenditure other than railway outlay required smaller direct payments overseas, the construction of roads, fences, public buildings and harbours dominated investment activity. And as the labour component of such constructional work is high, wages absorbed a large proportion of outlay. The level of imports in the seventies was closely related to development through the medium of wages and a high propensity to import.

Growth of public investment (Table V) was a major cause of import surplus in the middle seventies, for government capital outlay exceeded £41m. between 1872 and 1880. As export receipts declined after 1873 expenditure rose rapidly and was therefore a compensating factor in Australian economic stability. In 1872 outlay was little in excess of £2m., but thereafter governments were busy with railway construction work to serve Victorian wheat lands and New South Wales sheep plains, and expenditure exceeded £6m. in 1878.

In terms of balance of payments criteria, there is no distinction between private and public capital formation. When settlers built houses or fenced and otherwise improved their farms and stations, income was generated exactly as with railway investment. Much more than half of aggregate investment in Australia was financed on private account, but private investment has received inadequate attention because there are no estimates for the nineteenth century economy.

Residential construction and agricultural and pastoral improvements (chiefly fencing) dominated private capital formation, but there is little known about its growth in the seventies. Tentative conclusions drawn from general colonial indices suggest rapid growth until expenditure fell slightly in 1879. Movements of private and public investment were roughy parallel in the seventies and exerted similar pressures on the balance of payments.

Finally, one consequence of overseas borrowing was a growing interest commitment in London. Interest on public account totalled £19m., and on private capital £28m.[8] for the decade. Annual payments on public debt increased from £1,276,000 in 1870 to £2,457,000 in 1880. Interest over ten years therefore exceeded 50 per cent. of capital import, and when export and loan receipts declined, as in 1873 and 1877-8, this unavoidable expenditure reduced overseas liquidity.

A high rate of investment preserved colonial prosperity in the seventies when declining export receipts threatened stability. Before 1877-8 increased borrowing abroad was adequate to finance the deficit

8. Estimate by T. A. Coghlan in N.S.W. *Votes & Proceedings*, 1894, Vol. I, p. 1041.

TABLE V

	Value of Exports	Value of Imports	Balance of Trade	Balance of Trade (Cumulated from 1870)	Public Loan Flotation in London (1)	Interest Due in London on Public Debt (1)	Gross Public Investment (2)	Government Deposits in Australia (3)	London Funds (4)
	£000	£000	£000	£000	£000	£000	£000	£000	£000
1870	18012	17833	179	179	2091	1276	1991		757
1871	21725	17017	4708	4887	1484	1401	2119	2385	1430
1872	22518	18833	3685	8572	1172	1426	2130	3211	3893
1873	26370	24567	1803	10375	181	1417	2783	2830	3668
1874	25646	24554	1092	11467	2142	1465	3836	2232	1812
1875	24978	24939	39	11506	2281	1584	4735	2524	2069
1876	23540	23963	−423	11083	5119	1743	4202	3298	2238
1877	23107	25797	−2690	8393	1637	1862	4694	3888	782
1878	23773	26181	−2408	5985	2453	1980	6290	2304	−308
1879	21184	24233	−3049	2936	7961	2250	7445	3022	−296
1880	27255	22939	4316	7252	6895	2457	6905	3220	2348

(1) These estimates are taken from Public Accounts; loan repayments can be ignored.
(2) These figures are from N. G. Butlin and H. de Meel, *Public Capital Formation in Australia, Estimates 1860-90*, A.N.U. Social Science Monograph No. 2, Canberra 1954.
(3) These are very crude, including some December, some June, figures.
(4) June figures, derived by Method (b).

caused by the interrelation of colonial prosperity and British depression. When this supply of foreign exchange diminished, the balance of payments deteriorated and banks restricted the supply of colonial credit. In 1878-9 rapid economic expansion ceased in the colonies and there was a small fall in demand for imports. Expansion could not be sustained in the face of continued deficits on international account and banks were forced to reduce credit.

But renewed capital inflow on public and private account in 1879 sustained the level of investment and isolated inherent deflationary tendencies. Public borrowing in 1879 of almost £8m. surpassed all previous loan subscriptions in London, and British investors were again depositing in Australian banks.

Balance of payments adjustments checked colonial growth, but their effect was cushioned by running down London Funds, and by the inflow of capital. These supplied the necessary foreign exchange which made it possible for Australia to avoid the severe slump in British economic activity, 1877-9.

General Summary. 6

The Australian colonies enjoyed prosperity and expansion for most of the seventies after unfavourable conditions in the late sixties. Boom conditions in Britain following the continental war gave them a good start, for one effect was a rapid rise in wool prices and consequent windfalls to colonial pastoralists. Rising prices were made more favourable by good seasons which assisted in raising wool production from 177m. lb. in 1869 to 208m. lb. in 1871.

When the British boom collapsed in 1873 colonial exports suffered but economic growth was maintained by borrowing (to 1877) and permitting a decline of overseas liquidity. Unemployment in Britain increased from 1875 as falling output spread from iron, coal, and shipbuilding industries, and by 1878-9 there was heavy unemployment throughout Britain.

Australia was not entirely independent of the "Great Depression", but its effects were remarkably slight. Rapid expansion continued until 1878, but as reserves in London diminished, banks were forced to restrict credit. Despite the occurrence of bad seasons there was no depression. In Victoria there was some increase in unemployment. In New South Wales some men took out miners' licences when regular employment slackened. A fall in imports, a decline in Melbourne Clearing House activity, the collapse of a New South Wales land boom and an increase of insolvency, are further signs of recession but they are not the marks of severe depression. Liquidity reserves and capital flows followed by recovery of exports in 1880 minimised the effects of British depression.

The episode demonstrates the importance for Australian stability of liquid reserves overseas. Divergent movements in the British and Australian economies caused a balance of payments crisis that was averted until 1878-9 by running down overseas reserves. When automatic mechanisms of adjustment finally reduced colonial activity, rapid recovery of exports and capital flows prevented a serious decline of income and employment.

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NOTES.

WELFARE ECONOMICS: A STOCKTAKING[1]

With the abandonment of ethical utilitarianism,[2] economists were driven back to roughly the following position. The ranking of any pair of social alternatives, A and B, is a matter for political decision. The economist should be merely a supplier of information: his task is to *define* the available alternatives. If all individuals are better off in one alternative state than in the other, economists can predict with some certainty how the community will choose, no matter which of a large number of alternative choice mechanisms is used. In such a case we may say, loosely, that the *economist* can rank the alternatives; this use of language is dangerous, however, since it may suggest that in such cases the economist has recommendatory powers. This measure of certainty is not possible if some individuals are better off, others worse off, in A than in B or, I think it should be added, if some are better off, others no better off, in A than in B.[3] In such cases we may say, loosely, that the *economist* cannot rank the alternatives.

To this statement of the economist's role there have been two critical reactions. (i) The "commonsense" reaction consists in the statement that interpersonal comparisons must be made in practice and in fact are made continuously—when you cannot measure you must measure anyway. (ii) Others have acknowledged the interpersonal non-comparability of utilities but have rebelled against the passive role assigned to the economist. Accordingly they have sought to formulate generally acceptable tests the application of which would indicate a communal ranking of A and B even when some individuals were better off, others worse off, in A than in B. Such are the tests of Kaldor and Hicks, Scitovsky and Little. If they were successful, we would be able to say, loosely, that regardless of their nature the economist can rank social alternatives.

We shall argue that neither reaction is defensible. The view that interpersonal comparisons both are and must be made is ambiguous: on the most charitable interpretation it is misleading, on alternative

1. I wish to thank the members of the McGill and Johns Hopkins Staff Seminars for their comments on an earlier draft.

2. The abandonment was not even approximately simultaneous among economists. Nearly thirty years after Pareto's *Manuel*, Lionel Robbins' *Nature and Significance* sparked a warm controversy among English economists. In what follows we shall have in mind mainly the English and North American literature since 1932, the publication date of Robbins' classic.

3. This may seem an odd remark. Surely those who are left as well off in A as in B will vote for A simply because others are known to be better off in A than in B. This is unlikely since in deciding that they are as well off in A as in B the first group will have taken into account already the external economies of the others' enhanced welfare. The best that the economist could do is to assume a random distribution of the votes of those who are indifferent, but this is not a basis for certainty.

interpretations it is quite false. None of the proposed tests is acceptable since each has implications which are unacceptable to "most" people. Indeed, in the nature of social choices the formulation of an acceptable test is impossible. In brief we shall argue that much of the welfare work of the last twenty years has been futile, that on questions of foundations we must come back to something like the position sketched in the first paragraph. For brevity, though at the risk of mis-stating his views, we shall call it the "Robbins position".

I

The first "rebel" test proposed was that of Kaldor and Hicks.[4] It may be summarized as follows: *Alternative A shall be preferred to alternative B if and only if it is believed*[5] *that those who prefer*

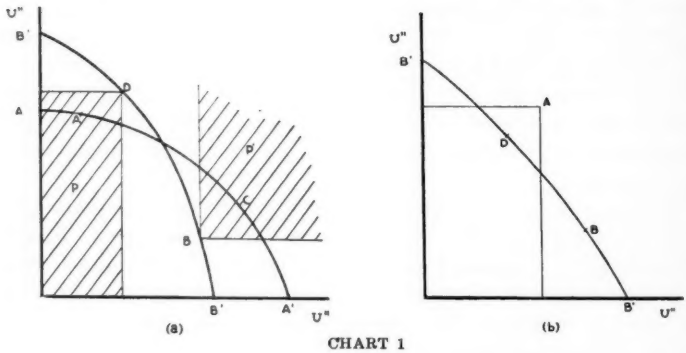

CHART 1

A to B could bribe into acquiescence those who prefer B to A,[6] *and still prefer A to B.* The application of the test can be illustrated diagrammatically in the case of a two-person community. Along the axes of Chart 1a are shown the utilities of the two individuals—any index numbers may be used. The curve A′A′ passing through A is the locus of all points which represent social states obtainable from A by lump-sum money transfers (bribes).[7] Applying the Kaldor-Hicks test, it can be seen that A is to be preferred to B since it is possible to reach C, which both individuals prefer to B. Notice that,

4. N. Kaldor, "Welfare Propositions of Economics and Interpersonal Comparisons of Utility", *Economic Journal*, Vol. XLIX, pp. 549-52; J. R. Hicks, "The Foundations of Welfare Economics", *ibid.*, pp. 696-712.

5. It is not clear whether unanimity among those who prefer A to B, unanimity among those who prefer B to A, or general unanimity is required—or even whether unanimity of any type is required. Since payment of the bribes is not required by the test, it would seem that approval at least by those who prefer B to A should be required.

6. Kaldor and Hicks state that the bribes should be sufficient to place those who prefer B to A in a position equivalent to that which they would enjoy in B. In view of the argument of footnote 3, however, it would seem that slight over-compensation should be required.

7. The curve A′A′ appears to differ both from Professor Samuelson's Utility Possibility Curve and from his Utility Feasibility Curve, since A need be neither an optimal point nor the best feasible point. See Paul A. Samuelson, "Evaluation of Real National Income", *Oxford Economic Papers*, N.S., Vol. 2, pp. 6, 18.

as far as the Kaldor-Hicks proposal is concerned, the course of A′A′ outside of the area P′ is irrelevant.

Criticism has been levelled at the Kaldor-Hicks proposal chiefly on two grounds. First, Scitovsky has shown that the test may be ambiguous in that it may both rank A over B and B over A—it may both approve a policy change and approve the annulment of the policy change.[8] In terms of Chart 1a, B is to be preferred to A since by money transfers it is possible to reach D, which is preferred to A by both individuals. Hence A is to be preferred to B and B to A. It is argued at some length in another paper[9] that intransitivity of social choices "should" not be sufficient grounds for the rejection of a test. Here it will suffice to summarize the argument. The fact that a particular alternative is chosen as the result of the application of a test does not indicate that the chosen alternative is "better" than the rejected alternative in any other sense than that it is chosen. Choice is just choice and does not confer any ethical distinction on the chosen alternative. Hence no ethical contradiction is implied by intransitivity.

Second, it was remarked that, since it does not require that bribes be paid, the Kaldor-Hicks proposal implies a value judgment which approves either the relative positions of individuals prevailing in A or those prevailing in B, depending upon which of A and B is chosen.[10] This in itself is not the cause of concern. The vital defect of the proposal is that the implied judgments of relative position are based on a principle which is essentially arbitrary—the judgments depend on the particular alternatives under consideration. Frequently the judgments will bear no close relation to "community preferences". That the relative position of some is better, of others worse, in A than in B, is unimportant; what is important is the possibility that an alternative may be chosen which involves a high relative standing of the "wrong" people.[11] The various statements

8. T. de Scitovsky, "A Note on Welfare Propositions in Economics", *Review of Economic Studies*, Vol. 9, pp. 77-88. For a discussion of the conditions under which there may arise the intransitivity the possibility of which Scitovsky has demonstrated, the reader is referred to E. J. Mishan, "The Principle of Compensation Reconsidered", *Journal of Political Economy*, Vol. IX, pp. 318-9.

9. M. C. Kemp: "Arrow's General Possibility Theorem" in *Review of Economic Studies*, Vol. XXI (3), No. 56.

10. This and the following remarks apply equally to Scitovsky's revision of the Kaldor-Hicks proposal, which may be summarized as follows: *Alternative A shall be preferred to alternative B if and only if it is believed* (*i*) *that those who prefer A to B could bribe into acquiescence those who prefer B to A, and still prefer A to B and* (*ii*) *that those who prefer B to A could not bribe into acquiescence in the choice of B those who prefer A to B, and still prefer B to A.* In terms of Chart 1a, the additional clause requires that if A is to be preferred to B there shall not exist a point D on B′B′ such that both individuals are better off at D than at A; it must not be possible to construct an area P to contain A.

11. Hicks was aware of the implied judgments about distribution and of the necessity of supplying a justification. He offered a tentative defence on the grounds that frequent application of the test would ensure a random distribution of the gains and losses among individuals. In the qualified form in which Hicks phrased his defence, it is open to the objections, first, that randomness would be difficult to establish, and, second, that since people are born and die over time, interpersonal comparisons of the living and of the dead would be involved. See J. R. Hicks, *ibid.*, p. 712; J. R. Hicks, "The Valuation of the Social Income". *Economica*, Vol. VII (N.S.), p. 111; J. R. Hicks, "The Rehabilitation of Consumers' Surplus", *Review of Economic Studies*, Vol. VIII, pp. 111-12; H. Hotelling, "The General Welfare in Relation to Problems of Railway and Utility Rates", *Econometrica*, Vol. 6, pp. 259-67.

of this objection seem to involve the implicit value premise that the problem of social choice *should* be reduced to a problem of distribution in some *single* sense of the term. This premise we shall examine critically below. The objection, however, can be rephrased and seems essentially valid.

Dissatisfaction with the arbitrary judgments about relative position of the Kaldor-Hicks prosposal is implied in the test recently formulated by Little.[12] It contains the explicit requirement that a chosen alternative shall be approved on grounds of relative position. It may be summarized as follows: *Alternative A shall be preferred to alternative B if and only if* (*i*) *A is preferred on grounds of relative position* and (*ii*) *it is believed that those who prefer B to A could not bribe into acquiescence in the choice of B those who prefer A to B, and still prefer B to A.*[13] In terms of Chart 1b, A is preferred to B if B′B′ passes south-west of A and if A is preferred to B on grounds of relative position. This proposal seems to be open to two objections so to speak on its own grounds and to an additional criticism arising out of the implied value judgment that the problem of social choice should be reduced to the problem of relative position in some *single* sense of the term. On its own grounds the proposal may be attacked, first, as failing to provide an operationally meaningful statement of the problem of relative position and, second, as containing a "redundancy"—clause (i) is sufficient, clause (ii) is not merely irrelevant but may lead to "wrong" conclusions.

Little's statement of the problem of relative position is as follows:[14]

> To say "Real income is distributed better at A than at B" must be taken to mean that if lump-sum money transfers, starting from the B position, had produced roughly the same relative utility position as now holds at A, there would have been an improvement. In terms of . . . [Chart 1b] . . . this is to say that a movement from B to a position such as . . . [D] . . . would have been good.[15] The index number proves that A lies north-east of . . . [D] . . . It follows that A is better than B. (This analysis requires that there be some imaginary point like . . . [D] . . . to the south-west of A such that the ordinary man would judge that there was nothing to choose between A and . . . [D] . . . as far as distribution was concerned. This I myself hold to be a fairly safe assumption.)

This statement is unsatisfactory on several counts. First, the index number inequality $\Sigma P_2Q_2 \geqslant \Sigma P_2Q_1$ proves that B′B′ passes south-west

12. I. M. D. Little, *Critique of Welfare Economics* (London, 1950), p. 105.

13. See footnotes 5 and 6. Little later requires, in addition, "(a) that the non-economic effects . . . [of the choice] . . . be neutral or beneficial and (b) that the . . . [choice] . . . does not render disadvantageous some other . . .[choice] . . . which would have been still better" (Little, *ibid.*, p. 108). The second part of this addendum covers the possibility of irreversible moves such as nationalization.

14. Little, *ibid.*, p. 274.

15. In Little's account the B′B′ curve is interpreted as a Utility Possibility Curve. However, our critical remarks are equally applicable whether it be interpreted as a Utility Possibility Curve, as a Utility Feasibility Curve, or merely as the locus of points obtainable from an arbitrary initial point by lump-sum transfers. See footnote 7.

of A only in the very special case of independent preferences, perfect competition and no marginal taxes. In general nothing can be inferred from such tests. Second, even if B′B′ does pass south-west of A there may not exist a point D, on that portion of B′B′ in the south-west quadrant, which is equivalent to A on grounds of relative position.[16] To assume the existence of such a point may, as Little suggests, be fairly safe. Nevertheless one must be suspicious of a procedure for comparing A and B which breaks down simply because

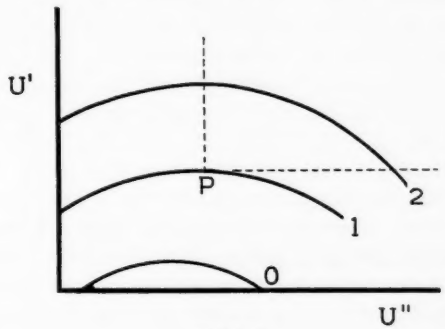

CHART 2

of the non-existence of third points of a special type. This suspicion is confirmed when we observe, third, that not only may D fail to exist but that its existence is not necessary to the comparison of A and B. The procedure outlined by Little for determining whether A is preferable to B on grounds of relative position is unnecessarily circuitous. For a direct comparison of A and B is no more difficult than a comparison of D and B: both involve a pair of situations in the first of which one individual is better off than in the second, the other individual worse off than in the second. All that is needed for a comparison of A and B on grounds of relative position is the information summarized in Chart 2. Knowledge of the shapes of A′A′ and B′B′ is unnecessary. Hence the Little test would appear to involve clause (ii) plus a *direct* comparison, on grounds of relative position, of the alternatives.[17]

16. Thus we may imagine a family of contours any one of which indicates pairs of values of U′ and U″ which, distribution-wise, are equally desired (Chart 2). We should expect that, as a general rule, the slope of the contours would be positive throughout their lengths but, since there is no accounting by economists for "communal tastes", there may be exceptions to the rule. In particular, the contour through A may be negatively inclined to the left of A and hence fail to pass south-west of A, at least in the neighbourhood of B′B′. Hence it may be impossible to find D even though clause (ii) of the Little test be satisfied. The queerness of this case is illustrated by reading first up and then to the right from P—the state of relative positions is seen to improve both if U′ is increased, U″ constant, *and* if U″ is increased,, U′ constant.

17. Samuelson has proposed an alternative re-writing: the test should require the existence of D (obtained by lump-sum transfers from B) such that D is preferred, on grounds of relative position, to B *and* that all individuals are better off at A than at D. This test requires the same type of judgments as the revised test outlined above. But it is less general in that it assumes the existence of such a D. As we have seen, D necessarily exists only if the distribution contours are positively inclined throughout their lengths. P. A. Samuelson, *loc. cit.*, p. 29, note 2.

But when the possibility of direct comparisons is admitted, it becomes clear that clause (ii) of the Little test is irrelevant to the problem of choice between A and B. The sole purpose of that clause was to establish the existence of D.[18] But we see now that the existence or non-existence of D is of no consequence. All that is needed for a choice betwen A and B is a decision on relative positions and for that the information contained in Chart 2 is sufficient. Indeed clause (ii) is worse than redundant since it may result in "wrong" decisions. For if an alternative is rejected by clause (ii) it cannot be approved by the Little test even though it imply an acceptable arrangement of relative positions. (And the indecision of the Little test between certain pairs of alternatives can be traced to the same failure to realize the sufficiency of a judgment about relative positions.)

Let us examine clause (i), revised version. This requires that the community appraise A and B on the basis of the two distributions of relative utilities. Now if this is taken to mean that the community can agree on what are the distributions of relative utilities in A and B it is open to the objection that utilities are not measurable, for by measurability we mean precisely that all could agree on the relative utilities in any situation. On the other hand, it may mean merely that individuals in appraising A and B should do so on the basis of their estimates of relative utilities, thus allowing for the possibility that these estimates may differ widely among themselves. But there seems to be no good reason why *all* individuals should conceive of social alternatives as alternative distributions of *utility*. It is not denied that some individuals do make what might be called interpersonal comparisons of utilities.[19] But there are available many other meaningful modes of characterizing the relative positions of individuals, *e.g.* relative money incomes.[20] Thus even the revised and expurgated version of the Little proposal is unacceptable.

II

We turn briefly to the "commonsense" reaction to the Robbins position. The following quotation is typical:[21]

18. This is not strictly true for Little was interested in comparing not merely A and B but A, B and D. D was an alternative in its own right as well as a means to the comparison of A and B. Little stepped beyond his initial purpose of providing a test for the appraisal of A and B. But this raises the question: Why stop at A, B and D? Why not include C (Chart 1a)? Or indeed all points on B'B' and A'A'?

19. The utilities compared are those which the estimating individual would expect to enjoy if he were in the position of the others. The "position" of others may be defined by income, assets, behaviour, etc.

20. Relative money incomes give a fairly good indication of relative purchasing powers —not a perfect indication because of legal and physical barriers to the purchase of certain commodities by particular classes of individuals, because of price discrimination, etc.—and permits of a clear statement of relative positions.

21. Kenneth E. Boulding, "Welfare Economics", in Bernard F. Haley, ed., *A Survey of Contemporary Economics*, Vol. II (Homewood 1952), p. 32.

> . . . in fact all economic policy has to be based on interpersonal comparisons, as compensation is hardly ever administratively practicable.

If by this is meant merely that in appraising social alternatives individuals may make estimates of the utilities of other individuals, the remark is valid but misleading since, as we have just argued, factors other than utilities may be taken into account. If, as seems to be the case, it is meant that social choices involve a communal estimate of utilities, the remark is invalid since no community can agree on relative utilities.

III

After twenty years we are full circle back to the Robbins position, with very little to show for our pains. We have returned to the position that, for the vast majority of choices, a judgment of relative positions is required, with complete individual freedom in the choice of the criterion by which relative positions are to be appraised. And this is merely another way of saying that the majority of social choices are compromise choices and that various types of external economies of consumption may influence the terms of the compromise.

Indeed it would appear that the attempt to formulate a permanently acceptable test for appraising alternatives is misguided. The acceptance by an individual of a test implies the acceptance of a set of conditions which determine communal choices. They impose a restraint upon individual decision-making; they involve him in some sacrifice of autonomy. But why should an individual, in every anticipated choice situation, be willing to submit to the same set of conditions? Surely he will accept or reject a test only after considering carefully the probable future outcome for him. But the anticipated outcome will depend on the anticipated choice situations, *i.e.* on the anticipated alternatives and on the anticipated preferences of other individuals. Whether or not a test is acceptable to an individual depends on his "choice vista". The vista is continually changing, hence the individual cannot be expected to submit permanently to the same test. And if the acceptable test is continually changing there is no point to formulating it.

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END-USES OF WOOL IN THE U.K.[1]

This note attempts to estimate the relative quantities of virgin wool used up in the manufacture of fairly broad categories of goods in 1948. No such information has hitherto been available for the United Kingdom although the need for it was stressed by the Wool Working Party in 1946. Data for the United States, prepared by Du Ponts and the Textile Economics Bureau Inc. are, however, available for both pre- and post-war years.[2]

Information about the wool content of end-products should be of interest to governments whenever curtailment of wool imports is contemplated, that is, either in time of war or in peacetime when wool imports have to be reduced owing to balance of payment difficulties. In such circumstances it is essential to allocate the smaller supply of wool to the most desirable end-products, but this cannot be done without fairly detailed information about the wool content of end-products.

Knowledge of the end-uses of wool is, however, of particular importance to organizations promoting the use of wool, who, in the absence of such statistics, would not know which groups of end-products it pays best to push. Over a number of years statistics of end-uses will give valuable information about the end-products in which artificial fibres have made most headway. There are other uses to which the statistics can be put both by raw material organizations and by manufacturers, but it is not the purpose of this note to discuss such problems.

The methods used to arrive at final end-use estimates from basic Census of Production data are described in detail in the Appendix. It should be pointed out here that they required a great many assumptions, some of which had to be based on very scant data. Consequently, the final figures must be treated with some caution, although several overall checks give grounds for believing that they are at least broadly right. For example, both the total yardage of wool apparel cloth used by the clothing industry (purchases, as recorded by the Census, corrected for stock changes) and the total weight of yarn used for knitted goods agree with our figures, which were obtained by estimating the average number of yards of cloth or weight of yarn used to make each type of garment listed in the Census. Furthermore, the end-use estimate of total wool consumption corresponds very closely to actual mill consumption in 1947, after adjusting for foreign trade and changes in stocks of intermediate

1. The estimates presented here were prepared by the authors in the Economics Department of the International Wool Secretariat; their thanks are due to the Secretariat for permission to use the figures.

2. A comparison of the U.S. estimates with our own for the U.K. is given in the Appendix; owing to differences in Census categories between the U.S. and the U.K., the comparison was not considered sufficiently reliable to warrant inclusion in the main text.

products. This comparison of 1948 end-uses with 1947 wool consumption assumes an average period of production of one year.

The results of the study, summarized in Tables I and II give an interesting picture of the distribution of wool among its various uses. It is perhaps not surprising that 67 per cent. of raw wool is used for clothing of one kind or another, but it may not be generally realized that knitted goods account for as much as 40 per cent. of this, or 26 per cent. of total wool consumption. The largest single use to which wool is put in the U.K. is, however, the making of carpets: these take 15 per cent. of total wool consumption, or nearly as much as blankets and socks, the next largest items, combined. Hand knitting and mending wool is another important item, *using slightly more wool than men's suits.* Men's and boys' outerwear, taken together, account for 16 per cent. of home consumption of wool, compared with only 10 per cent. for women's outerwear, but a breakdown of the item for piece goods would raise the latter figure

Summary Tables*

Table I

End-Uses of Wool in the U.K. — 1948†

	Wool content '000 lb.	% of total
Woven Wool Apparel:		
Men's and boys' outerwear	61,592	16·2
Women's and girls' outerwear	38,097	10·0
Battledress, uniforms	11,411	3·0
Other apparel, including shirts, proofed garments, infantswear, linings, etc.	12,020	3·1
Piece goods for apparel	24,624	6·5
Total	*147,744*	*38·8*
Knitted Goods:		
Stockings and socks	31,053	8·2
Underwear	12,070	3·2
Jumpers, cardigans, etc.	20,378	5·4
Other knitted garments and goods	11,875	3·1
Handknitting and mending wool	24,533	6·4
Total	*99,909*	*26·3*
Other Apparel:		
Hats, caps and millinery	*9,294*	*2·4*
Non-Apparel Goods:		
Non-apparel woven fabric	18,198	4·8
Blankets	30,649	8·1
Carpets	57,565	15·1
Travelling rugs, coverlets and shawls	1,220	0·3
Mechanical cloth	4,717	1·2
Felt, other than for hats	11,348	3·0
Total	*123,697*	*32·5*
GRAND TOTAL	*380,644*	*100·0*

* For detailed tables see Appendix.
† Table I refers to production and is not comparable with Table II which refers to sales. Production figures are not available for 1946.

TABLE II

End-Uses of Wool in Sales of Tailoring and Dressmaking Industry, 1946 and 1948†

	Total Weight of Raw Material '000 lb.		% of Total	
	1946	1948	1946	1948
Men's and Boys' Outerwear				
Suits	23,294	21,291	21·4	18·9
Separate coats, trousers, etc.	21,609	27,454	19·9	24·3
Overcoats	6,165	6,795	5·7	6·1
Other outer garments including dressing-gowns	738	2,514	0·7	2·3
Total	*51,806*	*58,054*	*47·7*	*51·6*
Women's and Girls' Outerwear				
Costumes	6,127	3,476	5·7	3·1
Overcoats	17,584	17,201	16·2	15·2
Separate skirts, slacks, jackets, etc.	3,841	3,783	3·5	3·4
Dresses	4,515	3,723	4·1	3·3
Other	4,053	4,164	3·8	3·7
Total	*36,120*	*32,347*	*33·3*	*28·7*
Proofed garments	*2,556*	*2,521*	*2·3*	*2·2*
Shirts, blouses, pyjamas	*1,941*	*2,976*	*1·8*	*2·6*
Infantswear	*2,518*	*3,967*	*2·3*	*3·5*
Other apparel	*520*	*841*	*0·4*	*0·7*
Battledress and uniforms	*12,069*	*10,883*	*11·1*	*9·6*
Linings	*1,150*	*1,265*	*1·1*	*1·1*
GRAND TOTAL	*108,680*	*112,854*	*100·0*	*100·0*

† Table I refers to production and is not comparable with Table II which refers to sales. Production figures are not available for 1946.

without affecting the former. The large piece goods item, incidentally, accounts for the rather low figures for several women's garments, notably dresses and separate skirts. Similarly, if a breakdown of the hand knitting item were possible, the proportions attributed to some knitted goods would be considerably increased.

It should perhaps be pointed out that the figures in this study refer to wool consumed by end-uses at the factory level; they do not measure the amount or distribution of wool bought by U.K. consumers. To do that the figures would have to be adjusted for overseas trade in final consumer goods (which is fairly large in the case of carpets, blankets and knitting wool, but small for clothing items) and for changes in stocks in the hands of manufacturers and distributors.

The choice of 1948 as the year in which to make this study was forced on us by the date of the census. This was the only post-war year for which there was, at the time of writing, a detailed census of production for all trades required. Unfortunately, the compilation of this first full-scale census, after a lapse of thirteen years, was a very prolonged operation and the last of the data needed for this

study appeared only in March 1953. It seems unlikely, however, that the figures are greatly out of date. In particular the proportions, if not the quantities, of wool devoted to the main sections of the industry are likely to have remained very much the same since 1948. It will be seen from Table II, which shows the relative amounts of wool used in goods sold by the tailoring and dressmaking trade in 1946 and 1948, that the proportionate change is small even in very different years. In 1946, a good deal of capacity was still devoted to fulfilling demobilization needs and the quite considerable emphasis on suits is evident from the figures. In 1948, on the other hand, civilian consumer demand was much more important in determining production. Nevertheless for only one garment do the proportions differ by more than 3 per cent. in the two years. In most cases relative figures are almost identical although the quantity of wool used is about 4 per cent. greater in 1948. If production figures had been available for both years, the difference in quantity of wool used might have been slightly more pronounced as there is evidence to show that additions to stock were larger in 1948 than in 1946, but the pattern would not have been unduly disturbed. In view of these results it might be inferred that the changes in the four years since 1948 would not be much greater. Even the removal of clothes rationing in 1949 is not likely to have had any great effect on purchases of woollen clothing, since it is generally believed that rationing hardly affected the level of purchases in 1948.

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APPENDIX

In Tables III-V below we estimate the quantity of wool and wool waste used in the manufacture of each of the main categories of wool goods produced in the U.K. in 1948. Comparable estimates of U.S. end-uses of wool are also given in Table III. Table VI compares 1946 and 1948 wool consumption by end-use in the tailoring and dressmaking industry. The estimates are based on the Census of Production for 1948 and the Partial Census for 1946 and on more or less reliable information about the weight of all articles produced and the loss of weight in processing.

I. Basic Data

(a) *Output v. Sales.* The basic data varied considerably from one trade to another. This was due mainly to differences in the Census treatment of some sections but partly to differences in our own requirements (the fact that for trades producing fairly homogeneous products we needed considerably less detail than for others). Ideally, we should have liked the number or weight of goods produced

TABLE III

End-Uses of Wool in the U.K. (1948) and U.S.A. (1949)*

	Wool		% of Total Home Consumption	
	'000 lb. U.K.	mn. lb. U.S.	U.K.	U.S.
WOVEN APPAREL:				
Men's and Boys' outerwear	61,592	153·7	16·2	21·4
Suits	23,736	63·8	6·2	8·9
Separate jackets, trousers, etc.	29,609	62·5	7·8	8·7
Overcoats	7,372	21·7	1·9	3·0
Women's and Girls' outerwear	38,097	120·5	10·0	16·7
Costumes	4,187	25·5	1·1	3·5
Overcoats	21,076	69·4	5·5	9·6
Separate skirts, jackets, slacks, etc.	4,040	13·1	1·1	1·8
Dresses	4,172	9·5	1·1	1·3
Battledress uniforms	11,411	n.a.	3·0	n.a.
Proofed garments	2,489	—	0·7	—
Shirts, blouses and pyjamas	3,455	7·2	0·9	1·0
Infantswear	3,970	26·0	1·0	3·6
Other apparel	841	2·4	0·2	0·3
Linings, etc.	1,265	27·6	0·3	3·8
Piece goods for apparel	24,624	41·5	6·5	5·8
Total Woven Apparel	*147,744*	*378·9*	*38·8*	*52·6*
KNITTED GOODS:				
Stockings and socks	31,053	9·2	8·2	1·3
Underwear	12,070	4·2	3·2	0·6
Jumpers, cardigans, etc.	20,378	31·5	5·4	4·4
Infantswear	2,444	n.a.	0·6	n.a.
Women's and Girls' dresses and skirts	1,484	0·7	0·4	0·1
Bathing costumes	458	1·1	0·1	0·2
Other knitted garments and goods	4,280	4·8	1·2	0·7
Knitted fabric	2,371	n.a.	0·6	n.a.
Woven garments and other goods sold by hosiery industry	838	n.a.	0·2	n.a.
Handknitting and mending wool	24,533	8·8	6·4	1·2
Total hosiery and knitted goods	*99,909*	*60·3*	*26·3*	*8·4*
OTHER GOODS:				
Hats, caps and millinery	9,294	8·6	2·4	1·2
Non-apparel woven fabrics	18,198	45·3	4·8	6·3
Blankets	30,649	28·5	8·1	4·0
Carpets	57,565	186·5	15·1	25·9
Travelling rugs, coverlets, etc.	1,173	n.a.	0·3	n.a.
Shawls, not knitted	47	n.a.	—	n.a.
Mechanical cloth	4,717	9·1	1·2	1·3
Felt, other than for hats	11,348		3·0	
Other	—	2·7	—	0·4
Total other goods	*132,991*	*280·7*	*34·9*	*39·0*
GRAND TOTAL	*380,644*	*719·9*	*100·0*	*100·0*

* Refers to production of end-use items.

TABLE IV

Wool Used in Clothing (Woven)

	Nos. of Wool Garments '000	Weight of Cloth '000 lb.	Weight of Raw Wool '000 lb.	% of Total Clothing
(A) TAILORING AND DRESSMAKING INDUSTRY				
1. Men's and Boys' Outerwear				
Suits: Men's	5,741	16,888	19,928	13·5
Boys'	2,090	3,227	3,808	2·6
Separate coats, trousers, etc.: Men's	17,601	21,266	25,093	17·0
Boys'	5,135	3,723	4,516	3·0
Overcoats: Men's	2,104	5,397	6,368	4·3
Boys'	626	851	1,004	0·7
Dressing gowns	224	489	577	0·4
Other outer garments and unclassified	244	252	298	0·2
Total		*52,093*	*61,592*	*41·7*
2. Women's and Girls' Outerwear				
Costumes: Women's	2,035	3,498	4,071	2·8
Girls'	87	99	116	0·1
Overcoats: Women's	7,566	15,782	18,370	12·4
Girls'	1,907	2,325	2,706	1·8
Separate skirts, slacks, jackets, etc: Women's	4,410	3,104	3,614	2·4
Girls'	811	365	426	0·3
Dresses: Women's	2,440	2,977	3,465	2·3
Girls'	694	607	707	0·5
Tunics, blazers and school uniforms	1,335	1,391	1,620	1·1
Dressing gowns	316	489	570	0·4
Other outerwear and unclassified	—	2,089	2,432	1·7
Total		*32,726*	*38,097*	*25·8*
3. Proofed Garments	*1,273*	*2,045*	*2,489*	*1·7*
4. Shirts, blouses, pyjamas				
Shirts: Men's and Boys'	3,736	2,069	2,380	1·6
Blouses	471	145	168	0·1
Pyjamas, etc.: Men's and Boys'	403	328	377	0·2
Women's and Girls'	607	461	530	0·4
Total		*3,003*	*3,455*	*2·3*
5. Infantswear				
Coats	5,322	1,996	2,295	1·6
Siren suits, etc.	451	226	259	0·2
Hoods, tams, etc.	1,827	48	55	—
Dresses, playsuits, etc.	2,838	798	918	0·6
Nightwear, etc.	782	195	225	0·2
Other nightwear and underwear	1,518	190	218	0·1
Total		*3,453*	*3,970*	*2·7*
6. Other Apparel				
Academic, etc. robes	30	45	51	—
Artificial flowers	270	5	6	—
Ties	4,868	383	441	0·3
Scarves	2,384	298	343	0·2
Total		*731*	*841*	*0·5*
7. Linings	—	*1,000*	*1,265*	*0·9*
8. Battledress, service uniforms	*5,704*	*9,532*	*11,411*	*7·7*
Total: tailoring and dressmaking trade		*104,583*	*123,120*	*83·3*
(B) PIECE GOODS			*24,624*	*16·7*
GRAND TOTAL USED FOR APPAREL			*147,744*	*100·0*

TABLE V

Wool Used in Knitted Goods

	No. of Wool Garments '000 or '000 pr.	Weight of Garments '000 lb.	Weight of Raw Wool '000 lb.	% of Total Hosiery
(A) HOSIERY AND KNITTED GOODS INDUSTRY				
1. Stockings and Socks				
Men's	80,148	17,532	21,915	22·0
Women's	9,924	1,613	2,016	2·0
Children's	43,692	5,517	6,897	6·9
Infants'	3,816	180	225	0·2
Total		*24,842*	*31,053*	*31·1*
2. Underwear, shirts and nightwear				
Men's	729	4,021	5,027	5·0
Women's	14,544	3,765	4,706	4·7
Children's	5,808	1,339	1,674	1·7
Infants'	4,236	530	663	0·7
Total		*9,655*	*12,070*	*12·1*
3. Bathing costumes				
Men's	624	195	244	0·2
Women's	156	78	98	0·1
Children's and Infants'	419	93	116	0·1
Total		*366*	*458*	*0·4*
4. Jumpers, cardigans, etc.				
Men's	7,080	4,883	6,104	6·1
Women's	12,782	6,391	7,989	8·0
Children's, excluding infants	10,056	5,028	6,285	6·3
Total		*16,302*	*20,378*	*20·4*
5. Infants' pramsets, matinee coats, etc	10,428	*1,955*	*2,444*	*2·4*
6. Women's girls dresses and skirts, etc.				
Dresses and skirts	648	587	734	0·7
Costumes and 2 and 3 piece suits	396	600	750	0·8
Total		*1,187*	*1,484*	*1·5*
7. Other wool outer garments				
Headwear	5,268	658	823	0·8
Neckties, scarves, etc.	1,140	285	356	0·3
Gloves	7,632	954	1,193	1·2
Other outergarments	2,315	1,158	1,448	1·5
Total		*3,055*	*3,820*	*3·8*
8. Other wool goods				
Shawls	756	284	355	0·4
Pram rugs, etc.	336	84	105	0·1
Total		*368*	*460*	*0·5*
9. Knitted Fabrics		*1,897*	*2,371*	*2·4*
10. Woven wool garments and other goods sold by hosiery industry		*670*	*838*	*0·8*
Total: Hosiery Industry		*60,297*	*75,376*	*75·4*
(B) HAND KNITTING AND MENDING WOOL		*21,192*	*24,533*	*24·6*
GRAND TOTAL KNITTED GOODS			*99,909*	*100·0*

TABLE VI

End-Uses of Wool in the U.K. Tailoring and Dressmaking Trade
(Sales)

	Total Weight of Raw Material '000 lb.		% of Consumption in the Trade	
	1946	1948	1946	1948
Suits: Men's	19,266	17,610	17·7	15·6
Boys'	4,028	3,681	3·7	3·3
Coats, waistcoats, and trousers sold separately: Men's	16,699	22,822	15·4	20·2
Boys'	4,910	4,632	4·5	4·1
Overcoats: Men's	5,203	5,823	4·8	5·2
Boys'	962	972	0·9	0·9
Dressing gowns: Men's	328	434	0·3	0·4
Boys'	87	79	0·1	0·1
Other outer garments and unclassified	323	2,001	0·3	1·8
Total Men's and Boys' Outerwear	*51,806*	*58,054*	*47·7*	*51·6*
Costumes: Women's	5,722	3,362	5·3	3·0
Girls'	405	114	0·4	0·1
Overcoats: Women's	14,644	14,690	13·5	13·0
Girls'	2,940	2,511	2·7	2·2
Separate skirts, slacks, jackets, etc: Women's	3,394	3,421	3·1	3·1
Girls'	447	362	0·4	0·3
Dresses: Women's	3,733	3,060	3·4	2·7
Girls'	782	663	0·7	0·6
Tunics, blazers and school uniforms	1,607	1,655	1·5	1·5
Dressing gowns: Women's	413	370	0·4	0·3
Girls'	84	76	0·1	0·1
Other Women's and Girls' outerwear and unclassified	1,949	2,063	1·8	1·8
Total Women's and Girls' outerwear (excluding proofed)	*36,120*	*32,347*	*33·3*	*28·7*
Proofed garments: Men's	1,624	1,603	1·5	1·4
Women's	932	918	0·8	0·8
Total	*2,556*	*2,521*	*2·3*	*2·2*
Shirts: Mens and Boys'	805	1,800	0·7	1·6
Blouses: Womens and Girls'	63	180	0·1	0·2
Pyjamas, etc.: Men's and Boys'	331	388	0·3	0·3
Women's and Girls'	742	608	0·7	0·5
Total shirts, blouses and pyjamas	*1,941*	*2,976*	*1·8*	*2·6*
Infants' coats, leggings, etc.	1,132	2,055	1·0	1·8
Infants' siren suits, etc.	144	219	0·1	0·2
Infants' hoods, tams, etc.	78	94	0·1	0·1
Infants' dresses, playsuits, etc.	957	871	0·9	0·8
Infants' nightwear, etc.	207	276	0·2	0·2
Other infants wear	—	452	—	0·4
Total Infants wear	*2,518*	*3,967*	*2·3*	*3·5*
Academic, etc., Total	8	51	—	—
Artificial flowers	9	6	—	—
Scarves	135	343	0·1	0·3
Ties	368	441	0·3	0·4
Total: Other Apparel	*520*	*841*	*0·4*	*0·7*
Linings	*1,150*	*1,265*	*1·1*	*1·1*
Battledress service and uniforms	*12,069*	*10,883*	*11·1*	*9·6*
GRAND TOTAL	*108,680*	*112,854*	*100·0*	*100·0*

in each main category. In fact the 1948 Census gives this information for the woven apparel items shown in Table III[3] (number produced) except linings and piece goods and for hand knitting and mending wools, blankets, rugs, shawls and mechanical cloth (weight produced). For all other categories the available Census data refers only to sales, and in the particular cases where these figures had to be used, namely knitted goods and felts, there was not sufficient information to make adjustments for changes in stocks. There are several indications that this omission has the effect of slightly under-estimating the wool used in these sections, taken as a whole, during 1948, but the error appears to be very small. In knitwear, the most important section from the point of view of size, the increase in stocks of all finished goods held by manufacturers was only about 2 per cent. of total sales. Since it is known that stocks of some hosiery items increased while others decreased, it seemed reasonable to ignore stock changes entirely rather than to apportion the small increase among the many classes of goods produced. There is no information about stocks of felts and it was therefore assumed again that there had been no change.

For the carpet and millinery trades, which each produce a single category of consumer goods, a breakdown of end-products seemed unnecessary and we used, instead of production or sales, the Census data for purchase by these trades of wool and wool products, adjusted for changes in stocks of materials and of goods in process. The figure for linings used in the tailoring and dressmaking industry is also based on purchase data. Output of woven apparel piece goods, i.e. cloth sold over the counter, is a residual. It is arrived at by deducting the following items from the total weight of woven cloth (excluding industrial cloths) produced in the U.K.: apparel cloth consumed in the tailoring and dressmaking trades (estimated by end-use), all non-apparel woven cloth (end-use), net exports, and net increases in stocks of cloth held by manufacturers (Census).

(b) *Small firms.* In all cases, the Census material excludes details of output or sales of firms employing less than ten persons In all but two of the trades, total employment in such firms is less than 2 per cent. of the total for the industry, and since output per person in small firms is probably less than in large firms, the error involved in using unadjusted Census figures is likely to be of the order of 1 per cent. In both millinery and tailoring/dressmaking, however, employment in small firms is about 15 per cent. of the total. After allowing for lower output per head and for the fact that small firms are more likely to work on customers' own cloth (included under piece goods), an increase of 10 per cent. was made to the

3. Information about *sales* of these items was also given in 1948 hence it was possible to make a comparison with the 1946 Census of the tailoring and dressmaking industry, which was only in terms of sales. This comparison is given in Table IV.

Census figure for production in these trades. The same proportionate increase was assumed for all items produced.

(c) *Output of firms in other trades.* The basic Census data also contain some differences in the treatment of output of principal products of one trade, by firms classified to other trades. For most trades the information required is available both for the trade in question and for firms outside that trade. In the case of tailoring and dressmaking, carpets and millinery, however, the figures for output refer only to establishments classified to these trades, though sales data are available for all firms. Where necessary, therefore, small adjustments for output by firms not classified to the trade under consideration were made by assuming that the output of these firms is the same proportion of that within the trade as are their sales.

II. Method

To arrive at an estimate of the weight of raw wool used for the two main categories, woven apparel and knitted goods, it was necessary to change output from number of garments as given in the Census to weight of wool goods. The first step was to find the number of garments made of wool. In many instances wool (or mixture) garments were listed separately in the Census, but where they were not, the proportion of wool to non-wool items was estimated with the aid of U.K. consumer survey information supplemented by American end-use data.[4] Some Census items grouped together several specified garments (e.g. jackets, trousers, etc.) with a significantly different wool content; such groups were broken down into their component parts with the help of the above data and the raw wool content of each garment was calculated separately until the final stage. To limit the errors due to such "guess-estimates" this breakdown was made only if the large group included garments requiring very different amounts of wool. The weight of raw wool used to produce these finished products was calculated in the following stages:

Tailoring and Dressmaking	Knitwear
(1) Average linear yards of cloth per wool garment (multiplied by)	Average weight per wool garment
(2) Average weight per yard of wool cloth (plus)	(Plus)
(3) Loss of weight in processing at all stages from raw wool to finished cloth	Loss of weight in processing at all stages from raw wool to finished garment.

4. K. Ross, "Working Class Clothing Consumption 1937-38", *Journal of the Royal Statistical Society*, Series A, Vol. CXI, Part 2, 1948. "The Market for Wool Goods in the U.K.", *World Wool Digest*, Vol. III, No. 16 (1952). "Textile Fibre End-Uses in the United States", *Rayon Organon*, May 1951, Supp. United States Department of Agriculture, *Studies of Family Clothing Supplies, Preliminary Report Nos. 2 and 7* (1952 and 1953).

(1) Most estimates of the yardage required for clothing made from woven cloth came from K. Ross, "Working Class Clothing Consumption 1937-38". Where possible these were checked with other data. The same source provided weights of some knitted garments; in other cases pattern specifications for hand-knitted articles were scaled down for machine knitting. In addition, small samples of most knitted garments were weighed.

(2) The weight per yard of woven cloth for nearly all garments represents the average weight of utility cloths specified for the article in question. In a few cases where utility specifications were not known weights were determined from cloths specified for similar garments.

(3) Processing loss was based on the average loss in weight of typical 60's merino wool — this being the only wool quality for which published information is available—at each processsing stage. For this purpose woollen and worsted garments had to be separated, since worsted undergoes an additional loss in combing. The data required for such separation was only available for fairly broad categories of garments, e.g. men's and boys' wear; it was assumed that for sub-groups within these categories the ratio for woollen to worsted is the same as that for the whole group. The error involved in this assumption, however, is very small; e.g., an error of 10 per cent. in the worsted/woollen proportions for men's suits (the largest individual item, by weight, in men's wear) would make a difference of less than 1 per cent. to the weight of that item.

In all trades other than tailoring, etc., and knitwear the basic data were already in weight form; hence only the third step was followed, i.e. adjusting the weight of cloth, etc., produced (or weight of raw materials consumed) to include processing loss between that item and raw wool.

III. Results

The final estimates of the amount of wool used in each category of garments include raw wool, reprocessed wool and other fibres. It is impossible to separate these for individual end-use items, but it is known that in the U.K. wool textile industry cotton, rayon, etc. amounted to 2 per cent. of total fibre consumption and reprocessed wool to 18 per cent. (These figures are on the low side because they exclude artificial fibres introduced at the worsted spinning stage.) In any case, it might be argued that the wool grower is really interested in the amount of new wool, including the waste products of that new wool, absorbed by each category of goods. For his purpose, therefore, it is unnecessary to distinguish between garments made from virgin wool and those from *new* waste. As more than

half the reprocessed wool used by the U.K. industry is *new* waste, the difference between our end-use estimates of fibre consumption (which include new *and* old waste) and estimates which would refer only to *new* wool is, *on the average,* of the order of 10 per cent. In the absence of information on the reprocessed wool content of even broad categories of end-products there was no point in making any adjustment to our estimates. A uniform 10 per cent. scaling down of the figures for separate categories would have left their relative magnitude unchanged.

IV. Comparison with U.S.

In Table III, comparisons have been made with United States end-use estimates for 1949, prepared by E. I. Dupont de Nemours & Co. Inc. and published by the Textile Economics Bureau Inc. in *Rayon Organon,* May 1951 Supplement. These comparisons may be used to show broad differences in wool consumption habits, but they cannot be considered very precise. This is mainly due to differences in classification; for example, the United States data do not distinguish between knitted and woven infants' wear and the whole item has therefore been included in woven outerwear. In general, the discrepances (as far as they are known) have resulted in too low a figure for United States knitted goods and a rather high figure for woven apparel, but the error is not nearly sufficient to upset the general conclusion that, compared with the United Kingdom, the United States uses a significantly greater proportion of its wool for woven apparel and a much smaller proportion for knitwear. This difference in consumption pattern is due largely to the extremely low consumption in the U.S. of such important knitwear items as wool socks and underwear.

It should also be mentioned that the overall United States figures have recently been revised, but as the changes did not extend to subgroups, it was not possible to take them into consideration. Finally it must be remembered that both United States and United Kingdom figures are subject to wide margins of error.

THE POST-WAR AUSTRALIAN BOND MARKET

This note presents the results of an attempt to throw light on developments in the post-war Australian bond market by investigating the distribution of holdings of Commonwealth Government securities in the post-war years 1946-52. The Commonwealth Bank has, for some years, published an annual table in its *Statistical Bulletin* showing the distribution of holdings in Australia as between (*a*) the Commonwealth Bank and Commonwealth Savings Bank, (*b*) all other

banks, (*c*) life insurance companies, (*d*) governmental bodies, and (*e*) "other holders". The immediate object of the investigation has been to examine the composition of the last residual category which, in the post-war years, accounted for 40-45 per cent. of the total.

The very incomplete results of the investigation are summarized in Table I. The Notes to Table I indicate sources and methods and the chief deficiencies of the estimates. Two main sources of information, in addition to the Commonwealth Bank's classification, have been used: (*a*) Data for particular groups of bondholders obtained from published balance-sheets or directly by questionnaire; and (*b*) tabulations of taxable Commonwealth loan interest income by the Commonwealth Taxation Department. As the Notes to Table I explain in more detail, both sources have proved deficient in many respects; particularly the estimates based on the Taxation Department's returns are very unreliable, even for the limited number of years and categories for which they were possible at all.

Some measure of confidence in the taxation data may, however, be derived from a comparison of the data for public company holdings (which are likely to be least seriously affected by the main deficiencies, i.e., incomplete assessments and exemption from tax liability) with data extracted from the published balance-sheets of some 600 public companies by Dr. A. R. Hall, of the Australian National University. Dr. Hall's figures, which he has kindly made available to the author, are compared with the taxation estimates in Table II. At first sight, the divergences are disastrously large, particularly for 1950-51, but most of them can be accounted for by differences in coverage and industry classification. Dr. Hall's sample excludes companies with head offices outside Australia, and gold-mining companies. His sample also fails to cover a fair number of stores and other retail firms for which no balance-sheets were available to him. These differences go some way towards explaining the most serious divergences, especially for mining, trade, and possibly also the totals for 1950-51. Differences in classification of industries certainly account for some other divergences (e.g. pastoral companies are included in "agriculture and pastoral" by Dr. Hall, but probably in "finance, commerce and property" by the Taxation Department).

Adding the new data, for what they are worth, to the data provided by the Commonwealth Bank's classification, the following tentative inferences might be drawn from the changes in the distribution of Government securities during the post-war years which the statistics reveal:

(*a*) Until 1949, the public (including the life offices, savings banks and governmental bodies, as well as companies and individuals) absorbed virtually all new bond issues, the Commonwealth (Savings?)

TABLE I

Holdings of Commonwealth Government Securities in Australia

TABLE I

Holdings of Commonwealth Government Securities in Australia

(As at 30th June)

Commonwealth Bank Classification	1946		1947		1948		1949		1950		1951		1952	
	£m.	%	£m.	%	£m.	%	£m.	%	£m.	%	£m.	%	£m.	%
1. C'wlth Bank and C'wlth Savings Bank	452·5	26·2	505·9	27·8	535·4	28·3	527·7	26·6	531·1	25·4	597·3	27·4	702·9	31·8
2A. Other Cheque-Paying Banks	130·7	7·6	91·1	5·0	72·4	3·8	73·9	3·7	103·4	5·0	104·1	4·8	77·5	3·5
2B. Other Savings Banks	156·5	9·0	163·5	9·0	171·7	9·1	177·8	8·9	180·7	8·6	181·6	8·3	180·3	8·2
3. Life Assurance Companies	190·2	11·0	208·3	11·5	219·2	11·6	233·0	11·7	231·9	11·1	208·9	9·6	197·8	8·9
4. Governmental Bodies	80·1	4·6	89·8	4·9	96·6	5·1	103·9	5·2	105·8	5·0	100·5	4·6	103·3	4·7
5. Other Holders	718·1	41·6	761·2	41·8	797·4	42·1	870·4	43·8	939·9	44·9	984·0	45·2	949·1	42·9
6. Total Holdings	1,728·1	100·0	1,819·8	100·0	1,892·7	100·0	1,986·7	100·0	2,092·8	100·0	2,176·4	100·0	2,211·3	100·0
BREAKDOWN OF "OTHER HOLDERS"														
5A. Taxpayers—														
(i) Non-Life Insurance Companies			37·0	2·0			41·0	2·1			48·0	2·2		
(ii) Other Public Companies of which			62·5	3·4			63·3	3·2			74·6	3·4		
(a) Agriculture and Pastoral			2·0				5·7				8·0			
(b) Mining			2·8				6·7				12·2			
(c) Steel and Engineering			6·3				5·8				4·3			
(d) Food, Drink and Tobacco			9·8				11·6				13·6			
(e) Trade			10·5				10·8				14·6			
(f) Transport			9·1				5·3				4·1			
(g) All Others			22·0				17·4				17·8			
(iii) Other Private Companies of which			23·9	1·3			22·2	1·1			35·3	1·6		
(a) Agriculture and Pastoral			1·4				2·5				15·0			
(b) All Others			22·5				19·7				20·3			
(iv) Individuals (resident)			291·1	16·0			324·1	16·3			(400)?	18·3		
5B. Non-Taxpayers														
(i) Other Governmental Bodies	13·4		19·2		20·3		26·4		42·6		37·1		24·0	
(ii) Private Superannuation Funds													40·7	
(iii) Churches	8·5		9·0		10·1		11·3		10·0		9·3		8·7	
(iv) Friendly Societies	6·4		8·1		8·1		7·5		6·0		4·3			
(v) Hospitals, Charities, etc.	9·2		10·6		11·6		12·2		11·0		10·6		10·2	
(vi) All Others (residual)			299·8				362·4				364·8			
5. Total "Other Holders" of which	718·1		761·2		797·4		870·4		939·9		984·0		949·1	
Trust estates administered by:														
7A. Trustee Companies	70·3	4·1	76·8	4·2	82·9	4·4	85·7	4·3	91·0	4·3	93·4	4·3	91·0	4·1
7B. Public Trustees	7·7		8·1		8·3		8·6		9·0		9·9		10·8	

TABLE II

Holdings of Securities by Non-Finance Public Companies

(£ million)

—	1947		1949		1951	
	Taxation data	A. R. Hall's data	Taxation data	A. R. Hall's data	Taxation data	A. R. Hall's data
1. Mining ..	2·8	2·6	6·7	4·4	12·2	4·2
2. Founding and engineering..	6·3	6·3	5·8	3·9	4·3	3·8
3. Food, drink and tobacco ..	9·8	10·1	11·6	10·9	13·6	9·6
4. Paper and printing ..	3·2	1·9	0·8	0·4	0·7	0·9
5. Transport ..	9·1	9·6	5·3	7·8	4·1	6·7
6. Textiles and clothing ..	0·6	0·5	0·7	0·6	0·6	0·4
TOTAL (1-6)	31·8	31·0	30·9	28·0	35·5	25·6
7. Agriculture and pastoral ..	2·0	3·9	5·7	6·7	8·0	10·6
8. Retail and wholesale trade ..	10·5	3·8	10·8	2·7	14·6	3·9
9. All other ..	7·5	4·6	7·3	3·8	12·4	2·6
TOTAL (1-9)	51·8	43·3	54·7	41·2	70·5	42·7

Bank taking over the securities which the trading banks sold to make way for expanding advances.

(*b*) From 1949 (in some cases 1948) onwards, however, several groups of holders steadily sold securities. Among these were certainly the life offices, governmental superannuation funds (1948), friendly societies (1948), churches, semi-government authorities, and charities, all of whose holdings declined absolutely; when allowance is made for new issues which were taken up by non-bank holders, it is apparent that there must have been sales of existing securities by other groups as well.

(*c*) Several different reasons could have accounted for these sales:

(i) decline in total assets;
(ii) claims on funds for real investment (buildings or plant);
(iii) desire for assets giving a higher yield in money terms;
(iv) desire to avoid capital loss through a fall in bond prices (rise in bond rate);
(v) desire to avoid capital loss in real terms through inflation.

The first explanation may apply to some charities, but hardly to any other group. The second may apply to some church organizations (building funds) and semi-government authorities (depreciation funds); it certainly accounts for most of the sales by non-finance

companies which tended to sell bonds accumulated during the war and seem generally to have treated bonds as their normal investment outlet for surplus funds, e.g. increasing their holdings after a capital issue and reducing them to finance real investment. Evidence for the third motive (desire for a higher yield) may be seen in the fact that two important groups, life offices and governmental superannuation funds, replaced the Commonwealth bonds they sold wholly or mainly by semi-government and local authority securities. This, of course, is not proof that a desire to hedge against inflation and, in 1951 at any rate, fear of a rise in bond rate, played no part in causing bond sales. Governmental superannuation funds presumably were not free to hedge; life offices did switch into preference and even ordinary shares on a significant scale; and for the major groups of other holders who are most likely to have been influenced by these last two motives, no data on holdings of other assets are available. But we can say at least that there is no positive evidence of a major tendency of bondholders to sell bonds for fear of either form of capital loss.

(*d*) Until 1951, the pressure on the bond market which these sales might otherwise have exerted was, for the most part, absorbed by a substantial demand for bonds from other sections of the general public. According to the taxation data, private companies increased their holdings from £22·7m. in 1949 to £36·4m. in 1951, and individuals perhaps by as much as £75m. Holdings of governmental bodies continued to increase, at any rate until 1950, despite the sales by superannuation funds and semi-government authorities. The trading banks also increased their holdings by some £30m. between 1949 and 1951. This buoyancy in the public's demand in a period of gathering inflation, and in marked contrast to the behaviour of most of those groups of investors for which precise information is available, seems to demand some explanation.

(*e*) A clue to what may be a major part of the explanation is provided by the figures for holdings by private companies which show that the increase in holdings by all private companies between 1949 and 1951 is almost entirely accounted for by those classified as "agriculture and pastoral". (The same is true of about half the increase in holdings of public companies over the same period.) It also appears that the continued increase in holdings by governmental bodies until 1950, despite the large sales by superannuation funds and semi-government authorities, is largely accounted for by marketing authorities, especially the Wool Realization Commission. These facts suggest that much of the credit for the buoyant demand for securities during these two years must go to the wool boom. It is probable that wool

growers were responsible for much of the increase in individuals' holdings; similarly, the wool boom, by increasing bank liquidity, may have helped the trading banks to increase their holdings in these two years. Besides the wool boom, and as an indirect consequence of it, a second source of funds which almost certainly played some part in supporting the bond market during the years 1949-51 was the inflow of some £200-£250m. of hot money from abroad. We have as yet no information about the form in which this money was held in Australia; but there is some evidence of substantial increases in holdings of Commonwealth securities by a number of newly-formed nominee companies which very probably represented such hot money. It seems, then, that it was not the "public" in general which increased its holdings between 1949 and 1951, but on the one hand, pastoralists, individuals and companies, who invested part of their large wool boom profits and savings in bonds, and on the other hand, non-resident owners of speculative balances held in Australia in anticipation of an appreciation of the Australian pound.

(*f*) If this explanation for the years 1949-51 is valid, it suggests the further hypothesis that the fall in wool prices in 1952 had much to do with developments in the bond market in that year. No taxation data are available to throw light on the composition of "other holders" in 1952. Data from other sources show conflicting tendencies. That the decline in holdings by governmental superannuation funds was reversed and the decline in life office holdings slowed down may reflect a favourable response to the increase in bond rate that took place in 1952. That many church funds, and also trustee companies, continued to sell bonds may reflect a sour reaction to capital losses. Sales by trading banks were presumably necessitated by the need to support importers and traders during the import rush of 1951-52. (Importers themselves may have sold off bonds during 1951-52 to help finance stocks.) Some of the sales by all sorts of holders in 1951 and early 1952 may have reflected a belated tendency to hedge against inflation. In view of all these facts, it can certainly not be claimed that the decline in "other holders" in 1952 was necessarily, to any significant extent, due to sales by pastoralists in response to the fall in wool prices—wool growers, after all, were still doing pretty well even in 1952—or to repatriation of hot money (of which there is little other evidence). It does appear, however, that the fall in wool prices deprived the bond market of the major sources of support which it had enjoyed in the preceding two years: directly, by sharply cutting wool profits, and indirectly, by eliminating any prospect of an appreciation of the Australian pound and thus putting an end to the inflow of hot money. Because this support disappeared, the Commonwealth Bank had to bear the brunt of all the sales of

the year—to the extent of absorbing over £100m. in one year and being finally driven to abandon its support policy.

(*g*) If this interpretation is acceptable, and it need hardly be emphasized that it is a somewhat speculative inference from very slender statistical evidence, it would suggest that, in Australia, the surrender of cheap money was imposed on the monetary authorities, not so much by inflation-induced or speculative movements out of bonds, but (*a*) by a tendency, on the part of institutional holders at any rate, to demand higher money yields than bonds offered, and (*b*) by the violent movements in wool prices (and consequential currency speculation) which first counteracted and then exposed, and perhaps reinforced, this selling pressure.

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Notes to Table I

1-5.—From Commonwealth Bank, *Statistical Bulletin*, November, 1950, and September, 1953.

2A, B.—Figures for "Other Savings Banks" from *Finance Bulletin*; for "Other Cheque-Paying Banks" by subtracting 2B from Commonwealth Bank *Statistical Bulletin* figures for "All Other Banks"; the resulting figures correspond fairly well with the figures for June averages from the *Finance Bulletin;* no 30th June balance-sheet data for cheque-paying banks are published.

4, 6.—From the totals for 1952, an amount of £160m., representing subscriptions by the National Debt Commission and other Commonwealth funds to a special short-term loan, has been deducted.

5A.—Estimates based on tabulations of Commonwealth Loan Interest income supplied by Commonwealth Taxation Department (published in summary form in Taxation Commissioner's Reports). Unfortunately, these tabulations are available for only a limited number of post-war years, as follows: separate figures for public and private companies, classified by industry, for income years 1946-47, 1948-49 and 1950-51; combined figures for public and private companies, classified by industry, for 1947-48; for individuals, totals for all Commonwealth loan interest income are available only for 1946-47 and 1948-49; for 1950-51, only total income from post-1940 loans is available; classification by industry (own or employer's) is available for all individuals' loan interest income for 1948-49, but for 1946-47 for pre-1940 loans only.

Holdings of securities have been calculated from these data by capitalizing the income of the preceding financial year at the average rate of interest on all Commonwealth securities covered by the Commonwealth Bank's classification; these average interest rates (1947: 3·26 per cent.; 1949: 3·25 per cent.; 1951: 3·15 per cent.) can be calculated from data given in the *Finance Bulletin*.

It should be noted that the resulting estimates are unreliable, both because of deficiencies in the Taxation Department's data for loan interest income and because of possible sources of error in the derived estimates of holdings:

(i) (a) The tabulations of loan interest income are based on incomplete assessments; they may understate the totals by as much as 25 per cent., though it seems likely that the understatement is less for public than for private companies, and less for either than for individuals. It cannot even be assumed that the degree of understatement is the same in each of the three years.

(b) Individuals include residents only; no information is available concerning holdings of Australian-registered Commonwealth securities by non-resident individuals.

(c) The Taxation Department's figures refer to *taxable* income. Because of various allowances, this greatly understates the loan interest income of banks and life insurance companies (which does not matter since independent information on their holdings is available); it should not be a significant source of error for the categories listed under 5A.

(d) A far more serious consequence of the preceding point is that the figures do not cover the large holdings of institutions and individuals whose income is exempt from taxation. The former include all public bodies, charitable and educational institutions, churches, friendly societies, sport and other clubs or societies, etc.; the latter include all individuals whose income is below the exemption limit.

(ii) The method of estimating holdings from interest income involves two minor possible sources of error:

(a) Capitalization at the average rate of interest overstates holdings for any group which held mainly older (high interest) securities and understates holdings of groups that held mainly more recent (low interest) securities.

(b) Since the income figures refer to the preceding financial year, holdings, as at 30th June of each year, are somewhat understated whenever holdings increased during the preceding financial year, and overstated whenever holdings decreased during the preceding financial year.

5A (i).—The Taxation Department's tabulations separate life and non-life insurance companies only for 1950-51; the estimates for non-life insurance companies for 1946-47 and 1948-49 have been derived from the estimate for 1950-51 by assuming that total holdings for all those companies increased from 1946-47 to 1948-49 and 1950-51 at the same rate as holdings of Australian-registered non-life insurance companies for which data were obtained directly from published balance-sheets. Since the latter's holdings accounted for less than 25 per cent. of the total in 1950, the assumption is a risky one, and the two estimates for 1946-47 and 1948-49 are subject to a particularly large margin of error.

5A (ii) (f).—This includes not only all other manufacturing, construction, etc., companies, but also all financial (pastoral, invest-

ment, trustee, finance, etc.) companies, other than banking and insurance.

5A (iv).—It has not been possible to make an estimate for holdings by taxable individuals for 1951, corresponding to those for 1947 and 1949, because the Commonwealth loan interest income of individuals in 1950-51 has been tabulated only for post-1940 loans. There is no certain way of estimating the ratio of new to old loans held by individuals in 1951. The figure in the Table is based on the assumption that the ratio for individuals was about 2 : 1 which is roughly midway between the corresponding ratios for public and private companies. It should be noted that this figure is subject to an extra margin of error of at least ± £25m. as compared with those for 1947 and 1949.

5B.—The figures refer to the balancing date of the institution concerned which is usually but not always 30/6.

5B (i).—This row represents the excess of holdings of all governmental bodies whose balance-sheets could be found in the Auditor-Generals' Reports of the Commonwealth and States (and in annual reports) over the figures for "Governmental Bodies" (4) given in the Commonwealth Bank's classification. Data for N.S.W. State, semi-government and local authority holdings were kindly supplied by the New South Wales Statistician; for the Commonwealth and all other States, they were collected from Auditor-Generals' Reports and other sources, including direct requests to the authorities concerned. Since no data for local authorities outside New South Wales were available, a rough estimate was made in the light of the data for New South Wales and other scraps of information. The excess over the Commonwealth Bank figures is probably mainly accounted for by the inclusion of a number of bodies (e.g. Universities, non-life departments of Government Insurance Offices, etc.) whose balance-sheets are given in the Auditor-Generals' Reports, but which may not be treated as "governmental bodies" in the Commonwealth Bank's classification. £1m. to £1·5m. of the excess may represent double-counting of Government deposits by trustee, insurance and other companies which have been deducted in the case of New South Wales but not in all cases in the figures for the Commonwealth and other States.

5B (ii).—The figure for 1951 was supplied by the Commonwealth Statistician and is based on a recent survey of private superannuation funds. No data for earlier years are available.

5B (iii).—Based on information kindly supplied on request by about one-third of all church authorities of all significant denominations in Australia, including fairly complete returns for three of the major churches. The totals are an approximate estimate with a pro rata allowance for those churches from which no adequate information was received.

5B (iv).—From Reports of State Registrars of Friendly Societies (with an allowance for South Australia for which no data were available to the author).

5B (v).—Data for New South Wales public hospitals were supplied by the New South Wales Statistician; one very large charitable organization supplied confidential information on its own holdings on request. The figures represent a very rough estimate based on a

percentage addition to these two groups to allow for all other hospitals and other charities.

5B (vi).—Residual, obtained by deducting 5A and 5B(i)-(v) from 5.

7a.—Estimated from data supplied, on request, by 17 out of the 24 Australian trustee companies listed in the *Australasian Insurance and Banking Record.*

7b.—From Auditor-General's Reports and Public Trustee Offices.

FULL COST PRICING IN WESTERN AUSTRALIA

In 1952 and 1953 we interviewed many manufacturing firms in Western Australia to check whether the conclusions of empirical enquiries made by Oxford economists in the United Kingdom are also applicable in Western Australia. We interviewed intensively the executives of twenty-one manufacturing firms and many others less thoroughly. One of the important findings of the well-known Oxford empirical enquiries was that firms in the United Kingdom generally adopted a pricing policy of fixing their prices at "full average cost". This must not be taken to mean that they always quoted the price for their product which equalled the full average cost including profit. The full average cost was sometimes exceeded in boom times, or on particular favourable lines, or not charged in depression times, or on lines where competition was exceptionally keen. Price leadership was also found to be fairly common. The price leader fixed his price at full average cost, or a conventional price, and other firms producing that type of product fixed a similar price, adjusting their costs or the quality of their product to that price, or shading the net profit margin if they could not do so. The full cost principle is thus a rule of thumb pricing policy which provides a frame of reference or guide for the entrepreneur, and is not a hard and fast formula.

The actual formula used for the estimation of full average cost also differed considerably, but generalizations could be made. "The formula used by the different firms in computing 'full Cost' differs in detail, but the procedure can be not unfairly generalized as follows: prime (or direct) cost per unit is taken as the base, a percentage addition is made to cover overheads (or oncost, or indirect cost), and a further conventional addition (frequently 10 per cent.) is made for profit. Selling costs commonly and interest on capital rarely are included in overheads; when not so included they are allowed for in the addition for profits."[1]

Mr. P. W. S. Andrews, as a result of his empirical enquiries, appears to have arrived at a slightly different generalization of the

1. R. L. Hall and C. J. Hitch, "Price Theory and Business Behaviour", in *Oxford Economic Papers*, No. 2, 1938.

full cost or normal cost principle. "The business man's conviction that, in the possibly-not-so-long run, his demand will be very elastic if he charges too high a price, will lead to his charging what he believes to be the right price, and then meeting the demand of his market at that price up to the limit of his production capacity. He fixes that price by adding a definite margin to his estimates of the average direct costs of producing a particular article.

"We shall call this margin the costing margin, to distinguish it from the realized gross profit margin shown in the trading account, but these two margins will have some sort of equivalence. The costing margin may well differ from product to product in the case of a multi-product business, but the weighted average of the costing margin will be equal to the realized gross profit margin so long as the realized circumstances do not differ from those that were implicitly assumed in the costing margins."[2]

Our interviews with the executives of the twenty-one firms in our sample, and with other business men, led us to the conclusion that manufacturing firms in Western Australia do fix the prices for their products with the guidance of a full cost principle. We found evidence of price leadership, and shading of prices below the full cost figure in order to meet a competitor's price. But despite many examples of individual prices varying from full cost, the principle was emphasized as the guide to price fixing and the cost levels which should exist in the firm.

Our investigations led us to suppose that there is a valid generalization of the full cost price formula normally used in manufacturing enterprises in Western Australia. However, this formula differs from that of R. L. Hall and C. J. Hitch and P. W. S. Andrews. The formula we found to be in general use was that of cost of materials plus direct labour cost per unit of output plus a percentage margin on direct labour costs to cover factory overhead costs, plus a further percentage margin on this "factory cost" to cover the "gross margin" (selling costs, administration costs and net profit). The term "gross margin" used here differs from that used by P. W. S. Andrews.

There were, of course, some exceptions to the formula generalization. For instance, firms producing building materials added a money figure per 1,000 bricks or tiles, etc., to the prime cost to obtain the factory cost, before adding the percentage "gross margin". Printing firms usually employed the formula of the Master Printers' Association, which consists of raw material cost plus an hourly rate for each machine used for the particular job to cover labour and machine charges, plus the "gross margin" to cover selling, administration and net profit. One food processing firm added a "poundage" to the

2. P. W. S. Andrews, *Manufacturing Business*, p. 157.

estimated factory cost to cover packing cost before adding the "gross margin". We only discovered one firm in the light engineering group which simply added a gross margin to direct labour cost to cover factory overheads and selling, administration and net profit. This firm was a newly established one, under inexperienced entrepreneurship. Apart from this latter exception, all the firms found their "factory cost" and added the so-called "gross margin" to it.

One of the questions which arises from the general use of this formula is "Why add the percentage margin for factory overheads to direct labour cost, rather than to prime cost?" The answer appeared to be mainly in the realm of accounting convention in Australia. Most executives believed that factory overheads do vary proportionately with direct labour costs. One executive of a light engineering firm produced figures for a series of years purporting to prove this close relationship.

ARNOLD COOK

University of Western Australia.

EDWIN JONES

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INDEXES OF VOLUME AND QUANTUM

For upwards of fifty years successive official Statisticians in Australia have worked on the problem of quantum measurement and, in particular, on problems of measuring the volume of production and trade. Latterly much attention has been given to the broader subject of measuring national income, gross national product and consumer expenditure at constant prices. But in Australia, as elsewhere, this important work is still in its infancy.

Progress has been given great impetus here by the fact that, since 1952, Australia has been one of the fifteen members of the Statistical Commission of United Nations through which body international statistical effort in this, as in many other fields, has been co-ordinated and advanced.

Official Statisticians in Australia have, as yet, published relatively few statistics of quantum or volume, and these few relate mainly to primary production. Most primary production is recorded as quantity aggregates of relatively homogeneous types of goods. The more intractable problem of converting statistical aggregates (that can initially be expressed in whole or in part only in terms of money) into "real" terms, or into values at constant prices, still awaits solution. The very rapid rise and wide dispersal of prices of late years have delayed progress, and problems of concept and method remain exceedingly difficult. Apart from these considerations, even

in those parts of this field where a solution is possible, there remain the more mundane but vital tasks of developing a statistical organization capable of yielding promptly and reliably the vast amount of new data required, and of training men with statistical experience and the faculty of critical analysis in the task of converting this data into sound estimates of quantum, volume and the like.

From the time of the International Convention on Statistics in 1928 until very recently, the project of compiling an Index of Industrial Production almost monopolised the attention of world statisticians—or rather official statisticians—in this field. Over this period a spate of experimental indexes appeared in many countries. Perusal of statistical literature shows a process of evolution. Many of the earlier indexes have been drastically revised (some more than once) by their original authors, or by their successors, as thought and new data developed. Even now fundamentally new methods are being tried in some countries, and definitions of concept and of results are still changing. It cannot be said that statistical work on indexes of industrial production has yet emerged from the experimental stage. Because of the Australian propensity to use even rudimentary index numbers as solvents for the most complex problems, Australian official Statisticians have been unwilling to publish experimental indexes which would almost inevitably be used in making important decisions or in formulating policies.

Methods recommended as recently as 1950 were heavily qualified by their sponsor, e.g. "Any statistical formula that could be suggested only represents an approach to our concept of changes in the volume of work done and not a direct measure of it".[1]

However, this project was at that time put into its proper perspective in relation to national income accounting, and is being viewed increasingly by the United Nations statistical organizations, and others, in the background of the major statistical project of which it is a part. World statisticians are following this valuable lead and increasing thought and effort are being devoted to the much more tractable problem of measuring national expenditure or, at all events, consumer expenditure on goods at constant prices, thus broadening the approach to the whole problem. It is incorrect to say that Australia lodged objections to the recommendations made by the Statistical Commission on Indexes of Industrial Production.[2] Australia made a submission in January, 1949. This was considered by the Commission when it made its recommendations in May, 1950, and when it decided that the Statistical Office of the United Nations should publish a Study in Methods on Index Numbers of Industrial Production which

1. United Nations: *Studies in Method, No. 1—Index Numbers of Industrial Production* (United Nations Statistical Office), September, 1950.
2. See Stevens: "An Index of Australian Manufacturing Production", in *Economic Record*, May, 1954, p. 89.

appeared in September, 1950. The Commission's recommendation and the Study should be read in conjunction.

In the case at least of the United Kingdom and of Canada, new and much more extensive approaches have been made to the problem than were directly envisaged by the Commission in 1950. The short paraphrase, given in the *Economic Record* of May, 1954, of the Australian submission to the Commission is both inexact and inadequate. It implies quite incorrectly that official Statisticians in Australia believe that the controversial issues surrounding Indexes of Industrial Production can be reduced to a few simple points. Reference even to the abbreviated summary of the Australian view published in 1949 by the United Nations shows this. Much of the breadth and depth of the Australian contribution to the subject is shown by the two papers published by Dr. Roland Wilson when he was Commonwealth Statistician.[3]

While it is stimulating and enlightening to consider the contributions made by private researches in Australia into this subject, little or nothing is gained by the publication of rudimentary results of efforts to produce putative indexes of industrial production. The three or four which have found their way into print in Australia are all necessarily based on inadequate data and, from an official standpoint, can be classified as on a level with experimental indexes published by many countries before the war. None that has been examined officially contributes anything new to the solution of the still unsolved problem of producing a sufficiently reliable index of industrial production for Australia.

S. R. Carver

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G. V. Portus

Garnet Vere Portus, who died in June this year, would have regarded himself, rightly enough, as primarily a pioneer of adult education in Australia. His achievement in that field, and in others, has been or will be acknowledged in other places. But for the Economic Society and the *Economic Record* it is proper to place on grateful record his importance as a pioneer of the study and teaching of economic history in this country. (The other and earlier pioneer was Shann in Western Australia.)

When in 1918 he was appointed part-time Lecturer in Economic History in the Department of Economics in Sydney, it must have

3. Roland Wilson: *Prices, Quantities and Values* (paper read before Economic Society of Australia and New Zealand (Victoria) 1937); and *Facts and Fancies of Productivity* (Economic Society of Australia and New Zealand) 1947.

appeared to outsiders a minor appointment. (In his autobiography, *Happy Highways*, he made only a couple of passing references to it.) Until he went to Adelaide as Professor of History and Political Science in 1935, it was necessarily only an offshoot of his main and exacting duty as Director of Tutorial Classes; economic history was a new and immature subject everywhere; the Sydney department of Economics was only slowly establishing itself: from 1907 to 1913 it was a small organization teaching for a diploma, and then until 1920 for a degree which did not until the latter year come under the control of an independent Faculty, which was started with a full-time staff of two. But these were the sort of difficulties on which the vivid and vigorous personality of Jerry thrived.

His course, as it took shape, was a mixture of economic history as embodied for instance in Lipson's Volume I and the type of general history which a couple of decades later was to claim independent status under the title of World History. Starting with a broad sweep over ancient civilizations it moved on through Greece and Rome to medieval Europe and thence to England and modern times. As the geographical scope narrowed it became more economic in content. Technical economic history, self-conscious in the modern manner of its theoretical basis, was absent. Equally Jerry never felt bound to confine his discourse to economic matters—his extended treatment of Chartism or trade unionism, for instance, was as much political and social.

At the result it was possible for the specialist to raise a sensitive nose. In cold print the syllabus looks a hotch-potch; Jerry inevitably could not keep up with the great flow of new research—the course was, after all, a small part of his activities. But the students who enjoyed the lectures would indignantly repudiate the criticism. For, first of all, they were lively lectures. Jerry lectured as he lived, with gusto, and no matter how often a lecture had been given before it came each time with zest and vigour, studded with wisecracks and whimsies. Jerry loved teaching and was quite ready to clown before a class if it would get a point across. One treasured memory of his students is his dramatized exposition of the Model Parliament, with Jerry taking all the parts (made possible by a small room, with a door either side connected by a corridor, and convenient windows). The point which he would have appreciated was that they remembered not only the good fun but what the Model Parliament was.

There was, in truth, much more than good fun—though the feeling that historical scholarship can be good fun was perhaps, after all, the most important thing he passed on to his students. There was a sense of the broad sweep of history, a feeling of growth, development and change brought home vividly. Moreover, there was, beneath

the jesting, an insistence on accuracy and evidence, a constant demand for clear thinking and precise writing. His comments on essays (which, since his classes were mostly between twenty and thirty, were oral ones—often over tea in his room) were a delight, as well as an effective corrective. (To one girl, whose style he thought turgid: "Go and fall in love and write the boy some letters; you'll soon learn to write".) Without warning he would quiz his class, never abandoning the issue until he had extracted not merely an acceptable answer, but one expressed exactly. The use of evidence was brought home by a compulsory one-third of his examination paper being devoted to commentary on extracts from Bland, Brown and Tawney's *Documents*, which was also his constant companion in lectures.

Jerry's own original writing in the field was necessarily slender, but far from negligible. Following his Oxford work on English charitable organizations (*Caritas Anglicana*) he published for the W.E.A. in 1921 *Marx and Modern Thought*, and in 1933 *Australia, an Economic Interpretation*. A great deal of research went into his chapter on the gold discoveries in the Australian volume of *Cambridge History of the British Empire*. In addition there were essays and the like aimed at adult education audiences.

His publication was less important than his inspiration of others, and his establishment at Sydney of the tradition that Economic History is a subject in its own right. Before he died he could congratulate us that his part-time lectureship had become three full-time teaching posts; his single-year course had expanded to three years' work to honours level; and, as he slyly remarked, when certain other Australian Universities decided to take the subject seriously, the staff they chose, while not his students, were products of the economic history school of which he was the father. In adult education, in broadcasting, at the University of Adelaide, he made more public reputations, but in pioneering economic history in Australian university work, he made himself a memorial no less enduring.

S.J.B.

NEWS AND NOTES

The thirty-first meeting of the Australian and New Zealand Association for the Advancement of Science will be held in Melbourne during the week Wednesday, 17th, to Wednesday, 24th August, 1955. The Local Committee for Section G (Economics, Statistics and Social Science) is preparing a programme for the Section meeting, but will be pleased to receive further offers of papers on suitable subjects. Anyone wishing to offer a paper for presentation to Section G, or to obtain information regarding the meeting of Section G, should write to Dr. D. Cochrane, Honorary Secretary, Section G, A.N.Z.A.A.S., c/o Faculty of Economics and Commerce, University of Melbourne. Other requests for information about the meeting should be addressed to Mr. N. H. Olver, Research Secretary, University of Melbourne.

We have received the first issue of the new *Scottish Journal of Political Economy*, the journal of the Scottish Economic Society. The journal is edited by Professor A. K. Cairncross, and will be published three times yearly. While part of each issue will be devoted to Scottish affairs, it is not intended to limit the contents either to Scottish contributors or to Scottish subjects. The first issue contains articles on labour turnover in shipbuilding, stability of membership in trade unions, transport costs in the north of Scotland, and the founding of the Glasgow Chamber of Commerce. There are also notes on the Scottish Economic Society and its predecessor, the Scottish Society of Economists. An interesting feature is a series of short comments on recent economic trends. The journal is published by Oliver & Boyd, Edinburgh; price, seven shillings and sixpence. We offer our congratulations and good wishes to the founders of this enterprise.

Professor W. Prest, Truby Williams Professor of Economics in the University of Melbourne, delivered the Joseph Fisher Lecture in Commerce at the University of Adelaide on September 2. His subject was "Economics of Federal-State Finance".

The South African Journal of Economics for March, 1954, is a special Coming-of-Age Issue. The Economic Society of South Africa was founded in 1924. Its quarterly *Journal*, first issued in 1933, celebrates its majority with a special issue which reflects the qualities that have given it an honourable place among economic journals.

The *Economic Record,* eight years older (but *not* a quarterly), can feel entitled to offer almost avuncular congratulations.

The special number is designed to be retrospective. A first group of five articles surveys general developments and changes in economic theory in the period 1933-1953. A second group of nine articles deals with economic activity in South Africa in the same period, analysed by South African economists expert in their special fields. The articles make this issue an important source for the study of the economic history and current economic problems of the Union.

A limited number of copies are available on application to the Secretary, The South African Journal of Economics, P.O. Box 5316, Johannesburg.

The Melbourne University Press is anxious to obtain copies of rare numbers of the *Record,* in order to fill orders for complete sets from reference libraries. The Press is offering 15 shillings each for copies of Nos. 1, 11, 12, 13, 30, 34, 36, 38, 42, 43, 48 and 56, and for the Supplements on Marketing Primary Products (February, 1928) and the New Zealand Centennial Number (October, 1939).

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REVIEWS

The Determination of Production: An Introduction to the Study of Economising Activity. By BURGESS CAMERON. (Cambridge University Press, 1954.) Pp. xv + 99. 18/- stg.

Dr. Cameron is well known in Australia for his work in the field of general equilibrium analysis, and for his advocacy of teaching economic theory within that framework. It is the teacher who speaks in this book, whose novelties are those of exposition. But it is a bold teacher; in little more than 100 pages we have a unified treatment of production and price in all its industries of an economy, with account taken of substitution possibilities for factors and products, of investment and money, of location and trade, and of the economic role of the State.

An adequate treatment of so complex a subject in so limited a space would seem to require argument in the concise language of mathematics. Dr. Cameron's argument, however, is largely literary; for he confines his mathematics to one note and two appendices on marginal and maximum concepts. The consequence is that most important propositions have to be presented without real proof; e.g. the laws of substitution, returns to scale, and the multiplier. The solution of equations in his various models has also to be taken largely on trust by the non-mathematical reader. It is, indeed, rather surprising to find a text on general equilibrium analysis having nothing to say about methods of solving equation systems.

Another surprise, and also a disappointment, is that Dr. Cameron is content to present a series of disconnected partial models, which are not finally combined into a general model. In Chapter I there is a clear and useful introduction to input-output analysis, using a three industry, one factor model in which demands depend only on income. Substitution between factors is explained by means of a one industry, two factor model in Chapter IV, and substitution between products in consumption by means of a four industry, two factor model in Chapter V, which makes consumer demands depend upon prices and income, and also allows for intermediate demand and investment demand.[1] Chapter IX is a good account of location and trade, leading up to a three industry, one factor, two region model in which consumption again depends upon prices and incomes.

No further models are presented, the remaining chapters being rather brief literary statements of further complicating influences.

1. It is, however, a little disconcerting to find an industry so dependent upon the weather as fishing used in these models, and, in that of Ch. V, to find full employment requires State investment to be 7,795 times private investment!

Chapters III and XI discuss production functions for firms and allocation of factors between them; it is first argued that linear homogeneous functions are plausible so that an industry's costs are invariant against any distribution of its output between component firms. If so, as Dr. Cameron says, there is no problem of allocating factors between firms as one solution is as good as any other. For the same reason, perhaps, he follows other writers in neglecting the not unimportant problem of aggregating firms' functions into an industry function.

Chapters VI and VII, which deal with investment and money, are again brief excursions over familiar, if not really solid, ground, but whatever the soundness of the results reached Dr. Cameron rightly decides to ignore them for the good reason that investment plans and the rate of interest must, as yet, be treated as data in practical work. There are similarly brief and unrewarding surveys of factor supply functions in Chapter VIII, and of alternative methods of production in Chapter X; these, too, have to be taken as "institutional data".

The economic role of the State receives some attention in Chapter XIII, where Dr. Cameron points out that we have not only to add a separate sector for the State but also to modify equations for taxes and State expenditures.

Finally, in Chapter XIV, general equilibrium is related to general interdependence, and the dynamic problem of dated variables and lagged functions is raised. The only suggestion for dealing with it is that "the effects of an institutional change must be traced period by period through each industry affected" (p. 87).

Dr. Cameron writes with great understanding of his subject, with shrewd practical judgement, and attractive clarity. But he has not here produced a really satisfactory text because he has not given himself sufficient space for a proper treatment, and because he has not been sufficiently bold in developing the excellent pedagogical idea upon which the book is based. An approach which is designed to free us from the restraints of partial equilibrium analysis should surely lead up to a general model and give some account of methods of solution.

C. G. F. SIMKIN

Auckland University College.

National Incomes and International Trade. By HANS NEISSER and FRANCO MODIGLIANI. (University of Illinois Press, Urbana, 1953.) Pp. vii + 396. $7.50.

The different countries of the world are linked together in a complicated network of trade relationships. Economists are often prone to simplify these relationships by confining their attentions to

particular countries and by treating exports as a part of the given data. The attempt by Professors Neisser and Modigliani in this book to construct an economic model for the world as a whole, in which the interdependence of countries is more fully recognized, is thus to be commended.

The authors set out to show in quantitative terms how the imports and exports of the various countries participating in international trade are determined, and to test the empirical validity of their conclusions on the basis of inter-war data. To prevent the analysis from becoming too unwieldy, the countries of the world are classified into six groups. The first four groups represent the four leading industrial powers (the United Kingdom, the United States, Germany and France), while the remaining industrial nations constitute the fifth group and the non-industrial countries the sixth. A further simplification, partly justified on theoretical grounds, is the consolidation of all imports and exports into three categories of commodities: raw materials, food and manufactures. By classifying countries and commodities in this way, the authors are able to represent the world (excluding the Soviet Union) by a system of thirty-six basic equations.

Underlying these equations is a fairly simple hypothesis: in the short run, imports and exports are mainly related to the level of real income. In the case of imports, it is the income of the importing country which is important. For the non-industrial countries, however, industrial output plus exports replace income as the import-determinant, and for raw material imports industrial output is considered the relevant variable. The exports of any particular country are treated as a function of the total imports of all other countries, on the assumption of what the authors call the "fixed participation" of any one country in the imports of the rest of the world.

Other variables also considered include prices (in the form of price ratios), net stock changes, domestic food production and the net flow of capital. However, partly because of the difficulties at the theoretical level in handling these variables, and partly because of the paucity of good data, these non-income determinants of international trade receive probably less than their full due.

Applying the methods of multiple correlation to the inter-war data, the authors estimate the coefficients of the various equations making up their system. Although in some equations (all of which are linear in form) a trend term is included while in others separate functional expressions are used for different years, the writers find that many of their basic relationships preserve their form over the entire inter-war period despite the fact that important structural changes were occurring to the world economy. An attempt to apply

these coefficients to post-war data produces far less satisfactory results. The coefficients are not sufficiently accurate to provide good estimates of income levels from import and export figures by the inverse use of the equation system.

The most interesting chapters in the book are perhaps those in which applications of the model are considered. The system, however, suffers from one serious drawback: it is essentially static, all the variables apart from import and exports being independently determined. As a result, the model is of limited predictive value. Nevertheless, a number of uses are found for the model which add to our understanding of international trade between the wars. An attempt is made, for instance, to show for specified inter-war years how trade balances would have behaved if some of the major industrial countries had been able to achieve full employment in these years. The model is also used, in conjunction with additional information, to give quantitative measurement to the international transmission of income changes under certain conditions.

It is impossible in a review of this length to do full justice to this book. Great pains have been taken to describe the statistical sources used and to explain the procedures employed in estimating the various coefficients and in testing their reliability. The economic theory underlying the work is discussed carefully and methodically. The authors are apparently well aware of the limitations of their analysis, and they suggest various directions in which further investigation must be undertaken. The book is not an easy one to read but the time and effort involved are well rewarded.

A. H. Boxer

University of Melbourne.

The Measurement of Australian Industrial Production. By W. E. S. Salter. (University of Western Australia Press, Nedlands, 1954.) Pp. iv + 63. 5/- Aust.

Australia must be one of the few Western countries which do not publish official indices of industrial production. In this study, Mr. Salter attempts to make up for this deficiency. He is modest about the accuracy of his own index, although he appears to cover the manufacturing sector in a satisfactory manner. He has constructed thirteen group indices and an all groups index for the production (June) years from 1945-46 to 1949-50. According to him, Australian manufacturing industry expanded output by 34 per cent in this quinquennium. The group "treatment of non-metalliferous mine and quarry products" registered the greatest development (78 per cent) and the group "skins and leather (not clothing or footwear)" the least (7 per cent).

In Part I the author deals with theoretical problems associated with the construction of quantity indices. The treatment is somewhat pedestrian, and some of the statements appear questionable. Thus we read on p. 1 that "physical measures only have economic significance to the extent that they are a useful means of expressing price per unit". It is true, of course, that aggregation must proceed via values, but surely if Mr. Salter were right we should have no need of quantity indices. Later we read, in connection with the question of comparing aggregates of goods at different times, that "if quantities and the value of money are constant and relative prices have changed, we can say that the economic significance has increased or decreased by so much" (p. 2). The author appears to imply that as a consequence of changes in relative prices alone, the values of the aggregates will have changed. This may, however, be disproved; for, using Fisher's Ideal Index of price as the measure of value of money (within the aggregate), we may write the above assumptions as

$$\left[\frac{\Sigma P_1 Q_o}{\Sigma P_o Q_o} \times \frac{\Sigma P_1 Q_1}{\Sigma P_o Q_1}\right]^{\frac{1}{2}} = 1;\ Q_1 = Q_o.$$

From these we may easily deduce that $\Sigma P_1 Q_o = \Sigma P_o Q_o$, and hence that $V_1 = V_o$, where the letters have their usual meanings. Still later in the section on production, regarded as an activity rather than as a volume of output, the author has some confusing arguments. He first regards activity as work done, then proposes to measure it by considering net output; that is, the value of output minus purchases. Clearly work done can be measured only in man-hours. However, accepting Mr. Salter's method we are at a loss to understand his argument that an index of activity may rise while an index of completions remains constant because "activity precedes completions in point of time" (p. 8). Since, in fact, activity is regarded as quantity of net output, and is found by using the value of completions, the argument appears invalid.

In Part II, Mr. Salter frees himself from theoretical burdens and uses a Laspeyre type formula to derive his indices. The net values of production in 1946-47 are used to weight ratios of quantities of net output. The indicators for the ratios of quantity of net output are those of direct output, deflated value of output, employment and input: the weights allotted being 63, 15½, 17½ and 4 per cent respectively. The industries included in the index produced nearly 90 per cent of total net value of manufacturing production in the base year; the author chooses 1946-47 because (he says) production in the preceding year was still affected by the war while in following years there was price distortion because of inflation.

Mr. Salter applies the Time Reversal Test to his indices and finds the discrepancies to be small (of the order of 0·2 per cent). He then produces evidence showing that relative net output prices did not change greatly between 1946-47 and 1949-50. (This is not surprising, since the Laspeyre index may be shown exactly to pass the Time Reversal Test if relative prices are constant.)

$$\text{For if } I_o = \frac{\Sigma P_o Q_1}{\Sigma P_o Q_o},\ I_1 = \frac{\Sigma P_1 Q_o}{\Sigma P_1 Q_1},\ \text{and } \frac{P_1}{\overline{P}_1} = \frac{P_o}{\overline{P}_o} = \lambda \text{ (say)}$$

$$\text{then } I_o I_1 = \frac{\overline{P}_o \Sigma \lambda Q_1}{\overline{P}_o \Sigma \lambda Q_o} \times \frac{\overline{P}_1 \Sigma \lambda Q_o}{\overline{P}_1 \Sigma \lambda Q_1} = 1.)$$

One wonders whether prices in 1946-47 were not already affected by inflation. In any event, there is a contradiction in the argument.

The author's general conclusion is that all the difficulties which he considers are unlikely greatly to affect his indices. I am inclined to agree with this conclusion, although the argument about errors cancelling is very unconvincing. In spite of all these criticisms, Mr. Salter has made a valuable pioneering study.

J. W. Rowe

Auckland University College.

The Measurement of Consumers' Expenditure and Behaviour in the United Kingdom, 1920-38. Vol. I. By Richard Stone. (Cambridge University Press, 1954.) Pp. xl + 435. £5/5/- stg.

This is the first volume of Mr. Richard Stone's long-awaited analysis of consumers' expenditure in the United Kingdom during the inter-war period. Work on this analysis started as long ago as 1941, but fortunately some idea of what was being done has been gleaned from time to time by the publication of progress reports by Mr. Stone in various economic and statistical journals. Those whose interests have been aroused by these reports will find even more to stimulate them in this book. In fact, it contains something of significance for the economic statistician, economic historian, economic theorist and econometrician alike. It might be thought that any book attempting this seemingly impossible task must prove to be a rather anaemic affair, but Mr. Stone has put together a volume which is both invigorating and incisive. Particularly interesting at this stage in the development of econometrics are Mr. Stone's two thoughtful chapters on the place and objects of econometrics (Introduction and Chapter XVII). They should be read by all economists.

The volume is divided into two parts. Part I outlines the process of measuring consumers' expenditure, while Part II outlines the economic and statistical analysis of the data. In the first part details

are given of the definitions, methods and sources of information used to estimate the various categories of consumers' expenditure. The main categories estimated are food, drink and tobacco, rent, rates and water charges, and fuel and light. It is not often that an economic statistician is prepared to take the user of his statistics into his confidence and provide him with all the information regarding the various assumptions that have been made in arriving at the final data. Not only has Mr. Stone done this, but he also assists the user by adding an indication of the reliability of the estimates. A rare occasion indeed, and one which, in addition to providing a wealth of information on methods of estimation for economic statisticians in Australia and other countries, should encourage them in their turn to do likewise.

In the second part Mr. Stone commences by examining (Chapter XVIII) the assumptions involved in the formulation of market demand relationships, using as a starting point the behaviour of a single consuming unit as set out by Hicks and Samuelson. This is a very clear and lucid account of the problems connected with aggregation and is worth a very careful reading by economists interested in this field of study. Turning to the problem of estimating the formulation adopted, Mr. Stone analyses the statistical difficulties and procedures in an extremely elegant manner. Here the assumptions behind the method at least squares regression are investigated from the point of view of applicability to economic data in general and to economic time series in particular. The analysis of this section employs the form of matrix algebra, which although very convenient and certainly less cumbrous to use when operating with many variables, does have the drawback that few economists are able to understand it. This is a great pity, as the difficulties outlined are not restricted to demand equations but are present in the analysis of all types of economic series, and should accordingly be widely understood by all economists likely to undertake the statistical estimation of economic relationships.

For many economists the meat of the book is contained in the final chapters where the market demand equations for over 60 commodities are estimated and analysed. This work is carried out with considerable skill both from the point of view of statistical proficiency and economic interpretation. The main independent variables are the level of income, the price of the commodity concerned and the prices of related commodities with occasionally another factor of importance (e.g., the effect of alcoholic strength on the demand for beer, and the effect of winter temperatures on the demand for coal) added to improve the explanation. Owing to the statistical difficulties of including income elasticities in demand relationships estimated from time series, Mr. Stone uses a combination of time series and

information obtained from the 1937-8 and 1938-9 Ministry of Labour household budget enquiries. By estimating his income elasticities independently and by using relative prices, Mr. Stone is able to increase the number of significant explanatory variables in the relationship to as many as 8. This is quite an achievement when the series used are limited to 19 items.

The results of this volume present the outcome of many years of patient research and laborious computation. In fact, it is almost terrifying to think of the number of regression equations that must have been calculated during the various stages through which the book has passed, and if it does nothing else, the book exemplifies with great force the need for large-scale research work if any worthwhile results are to be obtained in the fields of economic statistics and econometrics. Not only have Mr. Stone, his assistants and fellow research workers performed a very valuable service in providing a wealth of information regarding the pattern of consumption in the United Kingdom during the years 1920-38, but they have provided a framework which should long serve as a model for similar surveys to be undertaken for other periods and for other countries.

D. COCHRANE

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British Economic Statistics. By C. F. CARTER and A. D. ROY. (Cambridge University Press, 1954.) Pp. viii + 188. 21/- stg.

In 1950, the National Institute of Economic and Social Research set up a committee of university economists who had had experience of government service to make a general review of British statistics for their use in guiding or assessing economic policy. This book is modestly presented as a report of the committee's investigation; it is also one of the few really important books about economic statistics since Giffen's day. Its usefulness will no doubt be greatest for those who work with British statistics, but most of the problems considered are common to all countries which have shared Britain's recent experience of rapid development in the supply of statistics and in the demands made on them. The way in which economic policy decisions are reached is a close mystery, but it is clear from the nature of the questions at issue that statistics contribute something to the process. Since 1939, these questions have become more complicated as policy has extended into fields which were formerly left to the play of market forces, and new objectives of policy have been developed in the traditional fields. At the same time, there has been a considerable expansion in the scope and detail of economic statistics, but much of the new material, like the old, is a by-product of administration and

its increased volume is no indication that the increased demands of economic policy are being met.

Against this background the authors examine the possibilities and the shortcomings of the British statistical system. They begin by limiting the role which statistics might play to commonsense proportions; briefly, statistics could provide background fact, they could elaborate the implications of alternative policies or they might be used to keep check on how a policy is working. These general uses are illustrated by six detailed case studies, and the later chapters bring together the fruit of these studies under the three heads of quality, presentation and organization.

The case studies are as interesting in their own right as for their contribution to the main theme. The first considers an apparently simple question of fact—how large should the housing programme be? One soon finds, however, that interventions in the housing market have made the usual rudimentary indicators of demand difficult to interpret, while, on the supply side, the statistics of manpower and materials relate to the whole building and construction industry and not only to house building. Much more information is therefore needed for it cannot be assumed in a long-term policy that the demand for housing is insatiable. When we come to consider the future supply and demand for coal, which, like housing, has a managed price, there is no such lack of information. The difficulties of coal programming appear to stem rather from weaknesses in interpretation; an unwillingness to think in terms of trends and a preoccupation with single estimates have contributed to some conspicuous errors in forecasting. The other studies relate to the development areas and agricultural price-fixing and finally to the boarder planning problems of the balance of payments and the general balance of the economy. In each case, a policy question is set, the statistics available are examined critically, and suggestions are made for their more effective use.

The final summary chapters abound in commonsense proposals for improving the presentation and quality of existing information within the scope of the resources likely to be available. The realism of this approach lends all the more weight to the very few recommendations for collecting new statistics.

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Shares of Upper Income Groups in Income and Savings. By Simon Kuznets. (National Bureau of Economic Research, New York, 1953.) Pp. xli + 725. $9.00.

Professor Kuznets presents in this volume his exhaustive analysis of United States Federal income tax data from 1913 to 1948. His

main objective is to obtain the greatest possible degree of comparable and continuous information for the period. It follows that the scope of the work is substantially limited to movements in the share of the top 5 per cent of the population since this is the only group continuously subject to income tax.

As we have become accustomed to expect from the National Bureau and Professor Kuznets in particular, the calculations are fully explained and the method of estimation can be readily followed. There is even an appendix setting out the effect of an error made and of revisions of basic data subsequently made available.

The main task was to discover the share of income of the top 5 percentage groups of income recipients in relation to three definitions of total income. Other important aspects are an analysis of distribution of different types of income and an appraisal of the possible effects of changes in upper income shares on saving.

It is perhaps unnecessary to give more than this outline since it will be obvious to any person, who wishes to work on income tax data for any country, that he must, as a preliminary, examine this book. But it may be of advantage to point out one of the restrictions imposed on Professor Kuznets by the nature of the data with which he was working. The United States law permits or requires the filing of joint income tax returns by husband and wife and by some others. As a result, it is not possible to classify income tax data by the size distribution of recipients' income. Professor Kuznets necessarily adopted a distribution on a per capita basis including dependants. Thus the results, like practically all United States income size studies, is of interest primarily from the welfare rather than the productive side.

Some striking differences from the Australian data are the negligible importance of farm income in high income groups—Professor Kuznets relates the income of his top groups to both total income and total non-farm income without introducing appreciable error—and the absence of any reference to possible incompleteness of *Statistics of Income* for reasons other than evasion of tax. The latter is the main problem in using Australian income tax statistics in this way, since the higher (and more difficult to assess) incomes tend to be omitted to a varying degree.

Professor Kuznets draws attention to the relative stability of the high income share up till 1940 and its rapid fall since. But he does not refer to the effect of higher tax rates in stimulating the adoption of methods of sharing income within a family and the adoption of the expense account and similar techniques for rendering income non-taxable. In Australia and the United Kingdom these

would appear to be among the main causes of the post-war drop in the share of upper incomes.

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Income and Wealth. Series III. Edited by Milton Gilbert. (Bowes & Bowes, Cambridge, 1953.) Pp. xiii + 261. 35/- stg.

This is the third volume of papers prepared by the International Association for Research in Income and Wealth, and represents the papers presented to a conference held at Royaumont in 1951. The papers include two studies of long-term economic growth (of France and Japan), three on the measurement of national income in undeveloped countries, three on the international comparison of national accounts. These are all of considerable interest both practical and theoretical, but the reviewer was most impressed by the remaining two, the first and last studies in the book. These are the article by Gilbert on the statistical sources and their reliability for national income purposes, and the article by Ohlsson on the treatment of governments in the national accounting systems.

The article by Gilbert has a refreshing candour about it. We are so used, in this country to being envious of the wealth of material about national income components provided by the U.S.A. statistical organizations that we have come to believe, many of us, that the figures themselves were reasonably accurate. The discussion given here, both of the problem of reliability itself and the possible means of improving the accuracy of the published figures, will be read with interest by those concerned with using U.S.A. data, and, one hopes, those responsible for preparing similar data in Canberra.

The article on Government accounts starts by making the distinction between those services and commodities which are exchanged in a market, and which therefore provide bilateral transactions for the national accounts, and those others which are not of this type, viz., government, banking and insurance. In a very stimulating discussion Ohlsson points out that the manner in which these non-market activities enter, or should enter, the national accounts, must depend upon purposes for which the accounts are being prepared. "If we do not have some criteria provided by the theoretical basis and the purpose of these accounts, they easily become a system in which technical finesse and formal qualities play a dominant rôle in design."

R. S. G. Rutherford

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Taxation Policy. By G. R. MOUNTAIN and others. (Australian Institute of Political Science, Sydney, 1953.) Pp. 102. No price stated.

This book reproduces the three papers read and the subsequent discussion at the Winter Forum of the Australian Institute of Political Science, held at Sydney in July, 1953, together with a Conclusion written by Mr. R. C. Gates.

In the first paper, entitled "Taxation and Inflation", Mr. Mountain advocates reduction of taxation as the only practicable way of removing "the recurrent bias toward inflation of costs and prices which our full employment economy exhibits". He presents the standard economic argument that financing extra government expenditure by taxation is likely to cause an increase in aggregate expenditure and income. He emphasizes that in full employment conditions there will be a "volatile and high-spirited investment position" and that the banks will probably create sufficient extra credit to offset the effect on savings of the extra taxation. However, he refuses to accept the compensatory budgeting principle of skimming off purchasing power through budget surpluses, on the ground that governments always succumb to the temptation to spend the whole of their tax revenue. On the supply side he is concerned to show that although high taxation may cause some people to work harder it is likely, on balance, to exert "a frustrating influence on production". Presumably he does not perceive the conflict between this conclusion and the "volatile and high-spirited investment position" which is invoked to explain the process of "income inflation". The main weight of his argument rests on the credit expansion mentioned above, which he seems to envisage as a continuous process whenever taxation reduces current savings below the level required to meet the investment demands called forth by private consumption and government expenditure. No advice is offered as to what items of government expenditure might be reduced to achieve the necessary tax cuts. There is only the suggestion, also made by Messrs. Colin Clark and H. W. Herbert in the third paper (on "Taxation, Production and Living Standards"), that the practice of financing public works directly from taxation revenue should be abandoned. This is based on what Mr. Gates rightly calls "a silly argument" that if taxation were reduced people would be willing and able to subscribe to public loans the extra amounts needed to carry out the works programme without resort to finance by bank credit.

The paper by Messrs. Clark and Herbert will already be familiar to many people, as it was published in full under the title "High Taxation and Bureaucracy" in the taxation supplement of *The Australian Financial Review* on 30 July, 1953. Their thesis, maintained with a vehemence suggestive of parliamentary debate rather

than academic discussion, is that taxation must be reduced if we are to avoid "a static society ruled by a privileged hierarchy of bureaucrats and monopolists". They propose tax reductions of about £300 million. They would cut the current expenditure of Commonwealth and State Governments by almost £100 million a year by simplifying administration and reducing public services to the "bare essentials" (no details given). They would reduce social service benefits and food subsidies by £100 million or more a year. They would cut Commonwealth capital works expenditure, perhaps by as much as £50 million, and finance the remainder from public loans.

In the second paper, on "Uniform Income Taxation", Mr. Alan Tyrer draws heavily on the figures and arguments presented in the Report by Commonwealth and State Treasury officers, entitled "Resumption of Income Tax by the States", dated 19 January 1953. He concludes that "the reinstitution of a genuinely sovereign and flexible system of State income tax, with prospects of permanency and equity for taxpayers, would probably require an overall reduction of as much as 50 per cent. in present Federal income taxation". This would require a reduction of Commonwealth expenditure (other than tax reimbursements to the States) by £130 million or so. In any event, states Mr. Tyrer, restoration of State income taxing powers should await "a complete review of Commonwealth State financial relations, embracing not merely revenues other than income taxation, but also re-survey of the present functions and powers of the Commonwealth and States", since the restoration "could otherwise be only a part, and possibly temporary, palliative".

The concluding chapter by Mr. Gates admirably sums up and places in perspective the main points in the three papers.

W. R. Lane

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The Dollar. By Roy Harrod. (Macmillan, London, 1953.) Pp. vii + 156. 9/6 stg.

In 1953 Roy Harrod accepted an invitation to deliver the Sir George Watson Lectures on "American History, Literature and Institutions". He chose the dollar as the American "institution" on which he would speak. The lucid style and the stimulating content of the lectures, which are published in this small book, will undoubtedly give the economist and the general reader the same pleasure which the author says he has had in preparing them, even if they do not agree with everything he says.

Naturally, in four short chapters the author has had to be very selective in his treatment of his subject, particularly as he correctly includes in the last two chapters, as part of the history of the dollar,

a discussion of the post-war international economic agreements and of the problems involved in the worldwide disequilibrium of payments.

The first two chapters survey the evolution of the dollar and the slow development of central banking in the United States in the face of extreme suspicion of centralized control of finance—a suspicion which, as Mr. Harrod is able to testify from his personal experience, was a major factor preventing adequate monetary expansion at the onset of the great depression thereby discrediting monetary weapons of control, not only in the United States, but throughout the world. Although the author is now doubtful whether the slump could have been prevented by banking management alone, he emphasizes its basic importance as a tool of economic policy, condemns the folly of the post-war "easy money" policy in the United States, and welcomes the restoration of the Federal Reserve System after 1951 to something like its old shape.

Mr. Harrod points out that the United States has had a considerable surplus on visible trade account since the mid-1870's and that what is new in the present situation is not the surplus but the disappearance of the ways in which it was met in the past. As those who know his work would expect, he advocates the doubling of the price of gold by the United States to enable that commodity to resume its traditional role as the main medium of reserve and settlement. If this led to an increased flow of gold to the United States it would be beneficial, he argues, not only to the rest of the world, but also, in a world of political insecurity, to the Americans themselves, for "at $22 billion the United States external reserve must be regarded as miserably inadequate" and "quite out of line with all the other defence preparations she now has under way". This is certainly a novel argument to induce the Americans to give aid in this form—and by the way Mr. Harrod will admit that it is aid only in the "subtle sense . . . that the Americans would be offering to pay to get more of something that they do not really need". Unfortunately even if the Americans can be induced to worry about their reserves, there are other politically more acceptable ways of building up stocks of external purchasing power than by raising the price of gold.

Mr. Harrod is sceptical of the possibility of any marked expansion of exports to the United States in the short run, and claims that if the price of gold is not raised and aid tapers off emphasis will have to be placed on cutting imports. When he spoke, he felt that disinflation had been carried as far as possible. He doubts whether elasticities would be sufficient in current circumstances for devaluation to be successful, and declares that, in any case, the possibility of experimenting carefully with it was ruined by the "excessive and ill-timed" devaluation of 1949. Nothing is left, therefore, but the age-

old weapon of restriction. He wants if possible to ensure that the restriction of dollar imports is not confined to those countries which are in "natural" dollar deficit. There is merit in his suggestion that the rules of I.M.F. be modified so that a scarce currency is quickly declared scarce and discrimination can be organized multilaterally rather than bilaterally between each separate member and the scarce currency country. But there are obvious practical difficulties in getting those in credit with the United States to play their part.

Mr. Harrod recognizes this later in the book and stresses the importance for the countries of Europe of earning dollars in multilateral exchange, particularly by selling more to Canada and Latin America. His argument that the inconvertibility of European currencies is a major obstacle to the expansion of exports there is not convincing. But the reviewer shares his contention that convertibility need not await the removal of discriminatory import controls provided that adequate arrangements are made to ensure that the shocks which are likely to arise from time to time under a freer world payments system are not concentrated on the sterling area.

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The Future of Sterling. By A. C. L. DAY. (Oxford, Clarendon Press, 1954.) Pp. viii + 228. 23/6 Aust.

Problems of the Sterling Area, with Special Reference to Australia. By SIR DOUGLAS COPLAND. (International Finance Section, Princeton University, 1953.) Pp. 28. Free on request.

Mr. Day's book is important in that it is the first attempt, at any comparable length, to discuss the questions that need to be asked about the nature and effects of the way in which the sterling area has operated in recent years, and the future role of sterling in the world currency system. The book is conspicuously lacking in figures—and even, in some degree, in facts—but this is a pleasant change after the spate of books in recent years covering the statistical background to the recent history of the sterling area but excluding any discussion of the fundamental underlying questions.

After a brief sketch of the origins of the sterling area and of the stresses that were already turning it into something of a defensive mechanism in the 'thirties, Mr. Day devotes the main part of his book to a cogently reasoned argument for viewing with great caution the proposals for granting the right of convertibility into dollars to non-resident sterling. He emphasizes the threat that would constantly exist to the sterling area's reserves in any period of international difficulty if all the non-dollar world (or even that part of it outside

the sterling area) were free to convert sterling into dollars: for in a world where there is a currency that speculators are likely to favour more than sterling in any time of crisis, sterling would then have no adequate protection left in which to seek shelter from the running bears. Moreover, there would be the danger that the United Kingdom would be forced to maintain dollar import restrictions longer than other countries (the Dominions and colonies excepted—if their co-operation could be assured) in order to protect the reserves in the face of sterling surpluses earned by other non-dollar countries for the purpose of turning them into dollars. The burden of Mr. Day's lay is that nostalgia for "the high noon of sterling's power" must not be allowed to lead to further hasty attempts—analogous to those of 1925 and 1947—to restore sterling to its former position in the face of a radically changed world monetary situation.

Mr. Day stresses that the dangers of fostering uneconomic industries behind the protection of the dollar import restrictions may go some way to offset the gains to the non-dollar world from the better terms of trade (compared with the situation in which their currencies were devalued vis-à-vis the dollar and their dollar import restrictions removed). And he shows good reason to believe that the industrial exporting countries, among them the united Kingdom, have benefited far more than the overseas sterling countries from the sterling area's dollar import restrictions, since these have excluded dollar-manufactured goods far more than primary products.

He favours the freeing of trade and payments over as wide an area of the non-dollar world as possible, and suggests extending the sterling area and EPU systems to retain the pool of international liquidity that these currency unions have provided, whilst liberalising trade and payments with the dollar area as far as is permitted by the available dollar income and state of the gold reserves of the non-dollar world. His detailed suggestions for doing this are open to various criticisms; in particular, it is doubtful whether it would be necessary or desirable to split up the sterling area's reserves among the Dominions if they became members of EPU; though there would be much to be said for giving them some sort of more direct interest in their balance with EPU, since the United Kingdom has hitherto had to make most of the adjustments to rectify a serious sterling area EPU deficit.

Sir Douglas Copland's pamphlet seems to be aimed mainly at showing the American reader how far the sterling Dominions, including Australia, are coming to depend upon American markets and capital, and what fruitful economic partners they could be. He stresses the short-run advantages but long-run dangers to a sterling country of remaining behind the defences of the sterling system. If

he had an Australian audience more specifically in mind he might, perhaps, have laid some stress on the need to ensure that dollar loans raised by a sterling country are used in directions that will improve the dollar accounts of the borrowing country (or of the sterling area as a whole, if the country raising the loan is a member of the dollar pool) sufficiently to repay the interest and principal, and to take account of the continued special need to save or earn dollars that is implied in any policy of increasing the convertibility of sterling (and therefore the potential claims on the reserves). The two keynotes of Sir Douglas's pamphlet seem to be, first, the need for sterling countries to look outside the area as well as inside it; and, secondly, the responsibility of the United States for seeing that the outward glances of the sterling countries are met by a helpful response from the other side of the dollar curtain.

If Sir Douglas hopefully turns to the dollar world for the main element in the solution, Mr. Day concentrates on the task of making the best use of whatever American assistance is likely to be forthcoming, and of resisting the temptation to try to do too much towards liberalising trade and payments with the dollar area if that means throwing a disproportionate burden on sterling. Yet perhaps his powerful statement of the case for caution might usefully be tempered with a dash of Sir Douglas's optimism. The commonly accepted view now seems to be that sterling cannot "go it alone"; and certainly an adequate fund of international liquidity — both dollars and other currencies — must be available to reduce the strain on sterling as its convertibility increases. But, as both authors indicate, there are long-run dangers in never facing up squarely to the adverse effects of restricting dollar imports into the non-dollar world. At the very least (one may add), ways must be explored of selecting dollar imports in such a way as to minimise the protection given to uneconomic industries and to maximise — and fairly distribute — any resulting gains from the favourable movement in the non-dollar world's terms of trade. Certainly, it is essential to make sure that the relaxation of dollar import restrictions advances step by step with any advances towards increasing the convertibility into dollars of sterling held by non-residents.

Mr. Day's book suggests several of the problems that are having to be faced before sterling can be made more fully convertible; it need not, on that account, be interpreted as a counsel of pessimism. Both his book and Sir Douglas's pamphlet constitute a useful background to the formulation and appraisal of the plans for advancing towards convertibility that are now on the stocks.

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Die Europaeische Zahlungsunion und ihre Aufgaben bei der Neuordnung des internationalen Zahlungsverkehrs. By H. K. VON MANGOLDT. Kieler Vortraege 3. (Kiel, 1953.) Pp. 20. DM. 1.50.

This is a lecture delivered at the University of Kiel in 1953 by Europe's "chief cashier", i.e. the President of the E.P.U. Directorate. He starts by describing the spectacular achievement of regional convertibility now existing within the area of the E.P.U. (which is indirectly joined by the whole sterling area). The author then looks ahead of this vast system of trade discrimination against the rest of the world, towards the wider goal of general convertibility. The present system is exposed to severe strains at the seams. Within it there are some countries that are structural creditors, and some that are structural debtors. Since the debtors to the E.P.U. happen to have over-all deficits as well, they find it difficult to repay their debts to the Union. They do not pay enough in gold, or fully convertible currencies, for the Union to be able to make the required above-the-quota payments to its creditors. Since the latter are themselves in deficit with the dollar area (and prefer to buy the cheaper dollar supplies for their own industries) they are most unwilling to grant to the E.P.U. any more credit than the quota. In order to get out of this impasse, without restricting imports, von Mangoldt suggests an approach from the regional to general convertibility by "hardening" the E.P.U. settlements, and/or funding the balances as loans for limited periods (while at the same time increasing the quotas, so that the Credit now outstanding remains unchanged). His scheme tacitly assumes that such "hardening" would induce members to balance their over-all accounts.

He also discusses whether or not the dollar gap is "chronic" and why Great Britain prefers a purely "financial" convertibility (i.e., one for non-residents of sterling area only) to his plan for a complete one.

He gives interesting reasons why Western Germany should, if necessary, "go it alone" to full convertibility. This excellent little essay is worth reading, and might well deserve to be translated.

K. BIEDA

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The Economic Development of Van Diemen's Land, 1820–1850. By R. M. HARTWELL. (Melbourne University Press, 1954.) Pp. xii + 273. 35/- Aust.

This is the first published attempt to write the detailed economic history of a comparatively short period in early Australian history. Its method is to survey the general characteristics of an economy developing "from prison farm to capitalism", and then to discuss

land, capital and labour in separate chapters. Part III deals with particular fields of economic activity—the pastoral, agricultural and whaling industries; manufactures (in considerable detail); trade; and banking. Part IV sets out in chronological form an interpretation of the historical data in terms of trade cycle theory.

The chief merit of Professor Hartwell's book lies in the historical material which makes it a valuable source of reference. In particular it is good and apparently comprehensive in its treatment of industrial matters. But the theoretical conclusions drawn, especially in the discussion of the Trade Cycle, give much scope for critical study.

The history of colonial development is the history of exploitation and the achieving of political independence is only the first step in abolishing it. Professor Hartwell's study asserts that the colony was not exploited, but affords much material for those who want to prove the contrary. It is of no avail to assert that "trade was of mutual benefit". It always is, but how big was the lion's share?

Exploitation takes many forms, and it is not only the absentee capitalist or London merchant who draws tribute from the superiority of his bargaining position. Some colonial exploitation was by capitalists temporarily domiciled who made their pile and withdrew. Some who intended to do this but failed became the opponents of those who had succeeded. Governor Arthur was one of the successful ones. Swanston was one who lived to wish he had never seen the colony.

It is impossible to prove or disprove from statistics how much exploitation occurred, but even here Professor Hartwell has conflicting conclusions. Capital imports is "not large" and "considerable" at the same time (pp. 103 and 204). The chapter on the import of capital ignores the fundamental point that a total deduced from trade balances and other debits and credits is a net figure, and that it is probable that in the years 1835-1840 Tasmanians were exporting more capital to Port Phillip than the British were exporting to Van Diemen's Land. This can be seen in the Swanston letters. His association was spending heavily on Port Phillip and at the same time, in Van Diemen's Land, he was placing money of absentee investors in mortgages at 12 to 15 per cent. The bare figures of British trade would not show this process. That some Tasmanians were exploiting the wealth of Port Phillip is no consolation to others who in 1842 found their total wool cheque swallowed up by interest charges. The Swanston Letter Books give actual cases.

Professor Hartwell's table on p. 102 suggests that up to 1835 there was a steady net import of capital. In the Port Phillip phase, export was considerable, but while this is amply reported elsewhere it does not appear at this point where it is most relevant. The table suggests a net exodus of £100,000 a year for five years. Swanston's

Association claimed to have spent over £80,000. Fenton (in *Bush Life in Tasmania*) says the exodus of stock and people was of gold rush proportions.

The table suggests that the financial crash at Port Phillip checked the outflow but also that in 1844 it began again. Allowance must also be made for repatriation to Britain. This was probably influenced by the railway mania of 1846-7. Though Professor Hartwell says Van Diemen's Land was relatively uninfluenced by the crash of 1847 (p. 192) in Britain, on p. 232 he inclines to a different view. Swanston's Letters reflect this reverse flow and the failure of his mortgage bank came when only the frozen investments remained.

Professor Hartwell makes no allowance for certain invisible elements in the balance of payments. Capital brought by immigrants was considerable, as in the case of the Hentys, and though it swelled goods import totals, it did not involve later remittances as did absentee capital. It came, nevertheless, seeking to exploit colonial resources (and persons), and when it was later withdrawn, by those who wished they had not seen the colony, the fruits of exploitation went too. The figures quoted in the table cited suggest that the peak period of Commissariat expenditure (1845-50) coincided with this withdrawal and provided the liquid funds which made it possible. Another aspect of capital import is that coin actually brought, or credit balances held abroad, by these temporary settlers, augmented the total foreign capital applied to financing colonial trade and drawing profit from it. Professor Hartwell mentions only cash brought in but makes no allowance for the fact that much of this would have been unrecorded.

On the other side of the account, abating the computed figure of capital import, he should allow for unrecorded exports. It is likely, and he gives evidence in other chapters, that export earnings from ships sold were always large. It is also certain that bay whalers sold oil to visiting whale ships. Services and supplies to visiting ships were an important source of income from the beginnings of Van Diemen's Land settlement.

There is much evidence that the author is confused about the very meaning of capital and capital imports. He would certainly confuse beginners. A distinction drawn between commodity imports and capital imports ((p. 147), the suggestion on p. 103 that expenditure by the V.D.L. Company on livestock and consumption goods was not capital expenditure, the statement that capital requirements of woolgrowing were small (which ignores the outlay on sheep) (p. 7), a confusion of capital outlay and turnover (p. 167), the implication that commissariat expenditure is to be regarded as capital (p. 94) (though in another place it is more properly classed with

income from exports, p. 99); that expenditure on Port Macquarie (*sic*) and Port Arthur was inflationary and unproductive—these and many other statements show confusion if nothing more. Obscurity and loose writing are often in evidence—"Tasmanians" (when the Port Phillip depression had set in) "had to pay for their arrears of payment by liquidating the mainland funds which had been built up by exports", could have been put more simply.

The book is full of dicta which challenge contradiction, e.g. (p. 7) that the pastoral industry was not dependent on technical skill of a high order and that the supply of skilled workmen was not rationally determined by colonial demand. It was an essential condition for success in woolgrowing that shepherds, woolclassers and similar skills should be introduced and this was rationally determined by the desire to maximize profits. As for convict artisans, the governors indented for supplies and lent them to settlers. High earnings of skill also attracted free immigrants of the artisan class. Colonial demand for skill had to compete with the perennial shortage in Britain. It is also an open question as to what extent magistrates and legislators in Britain were influenced in transportation sentences by knowledge of the needs of those who held colonial investments. One finds much data in the book of chronic short supply of labour and high wages. The manager of the Van Diemen's Land Company, at least, urged his directors to press for augmented supplies, and even asked for a direct shipment in order to circumvent Governor Arthur's monopoly of skilled men.

There is much loose use of economic terms. "At a discount" and "at a premium" cannot be applied to wages (p. 64). There is no warrant for assuming that natural increase was zero, but it is inexcusable to write that "natural increase" was offset by deaths (p. 74). There is something wrong with a finding of a "depressed economy with full employment" (p. 88). Literary usage may tolerate a coinage being "overrated" (p. 171), but an economic analysis should stick to "overvalued". A distinction between "consumption goods and manufactured goods" occurs in three places, while investment is said to take the form of "working capital and of consumption and semi-durable goods" (p. 188), as if these were distinct categories. It may be demonstrable that consumption or purchasing power is falling but to discover a "falling propensity to consume" (p. 221) is merely to mislead those unfamiliar with theoretical concepts. It is also too great a concession to pure theory to describe land as a "free good" (p. 67).

Professor Hartwell's application of trade cycle theory to the Van Diemen's Land economy is ingenious; but trade cycle theory postulates a free economic society, and it is hard to see what value

lies in applying it to a colonial authoritarian one, in which the effects of worsening depression led directly to increased expenditure by the British Government. Only one paragraph (p. 234) is devoted to this point.

One cannot agree that "British private capital was untried in colonial investment" (p. 95) in the light of what is known of America both before and after independence. In this sense South America was then a British colony and the investment boom there in 1825 was the culmination of decades of experience.

The story of land settlement is fraught with factual errors and exemplifies Tawney's maxim that what historians need is fewer documents and stouter boots. Denison is quoted on extensions of pastoral activities between the Upper Derwent River and Frenchman's Gap. True, on paper—a region of sour button grass which to-day has one house and few cattle. "A substantial pastoral fringe in the south-west and west" (p. 60) merely evokes derision. It is known only to hikers, prospectors and pinecutters. That "occupation was pushed beyond Lake St. Clair" to make contact with the Van Diemen's Land Company (p. 60) would not have been stated by one who had seen this rugged, inhospitable region; moreover, the Company had long since withdrawn its sheep from the Surrey Hills and was concentrating on establishing tenant farmers on agricultural land near the coast. It is in one place miscalled the V.D.L. Agricultural Company.

A Government notice of locations (p. 54) is misquoted. The main point about sheep location is that the general pattern to-day is much as it was a century ago. This account gives an erroneous picture of extension to new areas, and fails throughout to draw the fundamental conclusion that in the 1830's, in relation to the technical resources of the time, Van Diemen's Land was fully developed and exporting capital to the mainland. This was concealed by the persistence of British colonialism in transporting cheap slave labour to serve the needs of investors.

The index is inadequate and the maps have inaccuracies. One transplants Epping Forest forty miles northward. The other omits some of the chief grants of Van Diemen's Land Company.

University of Tasmania. K. M. DALLAS

A Study in Trade Cycle History—Economic Fluctuations in Great Britain, 1833–1842. By R. C. O. MATTHEWS. (Cambridge University Press, 1954.) Pp. xiv + 227. 25/- stg.

This is an excellent book which ought to be read by economists as well as economic historians. It is the work of the assistant editor of the *Economic Journal*, and he has shown himself a master of economic analysis in this examination of the trade cycle in Great Britain during

a critical phase of the Industrial Revolution. The decade which the author has investigated has often been the subject of study by economic historians, yet because of the way in which he has used his economic theory he has managed to say something new and illuminating. The novelty of some of his conclusions is even more arresting since no fresh evidence was used; old seams were reworked, yielding much that was previously overlooked.

That an intensive study of short periods of the trade cycle has its limitations is well recognized by the author. However, his claim that "By subjecting a single brief period to a close study, we are enabled to do as full justice as the evidence permits to the complexity of the fluctuations experienced, and to avoid the dangers of over-simplification which are liable to result from attempts to impose too uniform a pattern on the history of fluctuations in different periods", has much that is to be recommended. The results of Mr. Matthews's book clearly underline the claim.

The general line of the book is "quantitative–historical" but literary sources have been drawn upon, and ably used to throw some light on changes where statistical evidence is faulty or non-existent. Chapter 1 (pp. 4) is an introductory chapter in which the problem to be studied and an outline of the solution are clearly stated. By far the largest part of the book, Chapters II–VII (pp. 102), is devoted to an examination of different aspects of Britain's "balance of overseas trade" including a useful account of the American market and its fluctuations. Chapters VIII, IX and X (pp. 59) are concerned with the cyclical experience of certain leading industries; the constructional industries of railways, building and shipbuilding, the cotton industry, and a miscellaneous group of the woollen and worsted, coal and iron industries. Chapter X also contains an interesting section on the "Joint Stock Company Boom" of 1834-36 and its effects on industry. Chapter XI (pp. 36) discusses movements in the sphere of money and banking. The last chapter, Chapter XII, "The Pattern of the Cycle" (pp. 23) attempts to bring together the threads of the analysis in order to create a synthetic view of the cycle.

The general pattern which emerges is quite clear. The year 1838 was a year of revival after seven years of predominately bad trade. Recovery proceeded slowly until about halfway through 1835 when a strong upward tendency began to be felt. By the early part of 1836 this had been converted into a boom in which a "mania" existed in certain activities. In the latter part of 1836, however, there was a slight fall in prices and in the more speculative activities of the boom. In 1837, a year of financial panic in the United States, the recession became sharper. The next year saw some recovery, but the

state of trade was in no way exciting. 1839 was a mixed year in the sense that in some industries there was almost a boom while in others there was considerable distress. It was also a year of high food prices, corn imports and a heavy drain of gold from the Bank of England. 1840 was relatively quiet with production for the most part high although business was said to be generally unprofitable. 1841 saw the recession move into the depression which deepened in the following year. 1842 was the hungriest year of the "hungry forties".

Perhaps the most arresting conclusion which emerges from the analysis, which is contrary to the customary view of the trade cycle, concerns the relationship between investment and the volume of output. A fall in the rate of investment did not bring about a fall in the rate of output during the period 1836–1840. Investment reached its peak about 1836, yet in the next four years while prices and profits were falling in most sectors of the economy, output continued to rise in the cotton, coal and iron industries and probably in the woollen and worsted industries as well. The reasons for this are quite clear. During the period of heavy investment capacity was increased. When investment and prices began to fall away, the heavy overheads encouraged the entrepreneurs to *increase* their output in order to spread costs. This was successful because of the peculiar elasticity of demand for the products of the industries concerned. This situation continued till 1841 when the level of demand fell away much more steeply than it hitherto had done and output began to fall.

As good as the book is, there are points of interpretation where the author, like most of us when attempting to make sense of the cycle, seems in places to be less sure-footed than elsewhere. In dealing with the trend of real wages he has relied on the indices constructed by Bowley, Wood, Tucker and Silberling. In view of the criticisms made of those indices by Professor Ashton in his article "The Standard of Life of the Workers in England, 1790–1830" (*Journal of Economic History*, Supplement IX, 1949) the matter ought to be reconsidered. It may be true that at the moment those indices are the only ones available, but does it help towards an understanding of the problem of real wages if indices which are known to be misleading are employed?

It is also a moot point whether the concept of the representative firm is useful in dealing with the cotton industry at this stage of its development. However, the reader cannot have everything. He will have enough intellectual enjoyment from what is already in the book.

J. GINSWICK

University of Sydney.

Deutschland's Stellung in der Weltwirtschaft. By OTMAR EMMINGER. Kieler Vortraege, 4. (Kiel, 1953.) Pp. 39.

The title of this monograph promises more than its short, but closely reasoned, exposition can give. Instead of "Germany's Position in the World Economy", the prospects of the West German balance of payments are discussed, and policy conclusions are drawn. The basic problem posed is this: Is Germany's surplus on international account likely to last, and if so, should a more liberal import policy (and/or appreciation) be attempted? The answer is negative because, according to the author, (*a*) high interest rates and raw materials costs make it hard for German industry to compete abroad; (*b*) the improved term of trades, while likely to last, may eventually mean more domestic consumption rather than foreign exchange accumulation; (*c*) the United States boom on which the German surplus depends may not last; (*d*) resumption of foreign debt service may put future pressure on the balance of payments; (*e*) Germany has not yet recovered her 1936 share of world exports. The "Ausfuhrförderung" (export drive) recommended in connection with this presumed normal level, leaves the unfortunate impression that Germany's export-pirating of the 'thirties still has its adherents. The author has some sharp words for the German capital market which, with its high interest rates, refuses to use much of the accumulating liquid assets for long-term investment. In spite of this one can but wonder how a stable world economy can be expected to develop if so patent a creditor country as West Germany is asked not to behave as a good creditor, but to restore a level of exports which was only achieved by means of economic aggression. It would have been helpful had the author included the effects of partition in his discussion. His conclusion, recommending a balanced growth of both exports and imports, does not quite follow from his argument, but will encounter less disagreement.

E. LERDAU

Auckland University College.

Economic Change in America. Readings in the Economic History of the United States. By JOSEPH T. LAMBIE and RICHARD V. CLEMENCE. (The Stackpole Company, Harrisburg, Pa., 1954.) Pp. viii + 599. $5.75.

In electing to compile a volume of readings in so broad a field, the editors set themselves a very difficult task of selection and organization. The most satisfactory method of minimizing the difficulty would have been to adopt one definite principle of selection, but this the editors neglected to do. In the first place, they intended to provide undergraduates with a supplement to the general economic history

text-books, and therefore chose their thirty-seven readings to fit the customary text-book headings of Agriculture, Industrial Organization and so on, with at least three readings for each section. Taken as a whole, the selection was meant to emphasize the theories of the importance of innovation in economic growth. In fact, many of the individual readings do refer directly to entrepreneurial activity of some kind, whether in industry, agriculture, banking or transport, but for certain topics such as Labour and Population the theme wears thin. Another expressed aim, however, is "to bring together readings that would reveal the diversity of elements both in American experience and in scholarly interpretations of it", an aim which is compatible with the text-book mode of presentation, but not with the insistence on a unifying theme. The general impression left by the book, therefore, is most indefinite.

A more fundamental objection to the selection is the inclusion of so much material which is easily accessible elsewhere. Admittedly it is convenient to have these articles brought together in one volume, but it would be hard to take seriously the editors' opinion that scholars "may find this the only available source of classic essays that have long been out of print". The majority of the readings do not come within this category. Selections include, for example, chapters from A. H. Hansen's *Business Cycles and National Income* (Norton, New York, 1951), E. C. Kirkland's *Business in the Gilded Age* (University of Wisconsin Press, Madison, 1952), A. H. Cole's *Change and the Entrepreneur* (Harvard University Press, Cambridge, 1949) and articles from comparatively recent issues of *The Journal of Economic History, The American Economic Review, The Journal of Political Economy,* and other periodicals similarly available. Australian readers will consider the eight articles from *Agricultural History* as "scarce", for the only Australian libraries to receive this publication are the South Australian Public Library and the Waite Agricultural Research Institute. In the case of three of these readings ("The Public Domain in the Era of Exploitation, 1862–1901" by R. M. Robbins, "A Post-Mortem on the Labor-Safety-Valve Theory" by F. A. Shannon, and "The Agricultural Problem and Nineteenth Century Industrialism" by Theodore Saloutos), the material content of the article has been incorporated in a subsequent book by the author concerned, while two readings on Southern Agriculture, written in 1939, have received the attention of later economic historians of the South. The remaining three in the group comprise a discussion by Earle D. Ross and Robert L. Tontz on the meaning of the term "Agricultural Revolution", a summary by W. S. Greever of the "known facts" of railroad land-grant policies, with the conclusion "that the carriers were generally honest, far-sighted, and

enlightened", and some reflections by J. C. Malin on past, present, and future agricultural policies of the United States in relation to a mechanized world. Professor Malin's thesis is that "the well-being of society as a whole and the freedom of man as an individual lie within that area of inter-action between full stabilization and extreme mobility—a stabilization that does not become static and a mobility that does not become destructive". This opinion could well have been the unifying theme of *Economic Change in America*.

M. RONALDSON

University of Melbourne.

The Federal Reserve System, 1945-1949. By J. S. FFORDE. (Oxford, Clarendon Press, 1954.) Pp. ix + 351. £3/3/- Aust.

This is a meticulous study, by a young British economist, of American monetary policy from the end of the war until December 1949. Its main theme is the handling by the Federal Reserve System of three problems of the post-war years: the "untenable" war-time pattern of interest rates (unduly widespread between short and long rates); the difficulty of holding down the long-term rate at 2½ per cent in the inflationary conditions of 1946-8; and the 1949 recession. The author's procedure — minute ball-by-ball description of central bank operations amid the bewildering complexity of the American security market and banking system — makes considerable demands on the perseverance of the reader. But the effort, finally rewarded by a helpful chapter of conclusions, is well worth while.

Mr. Fforde clarifies much that will have remained obscure to Australians who kept no more than half an eye on United States monetary developments during the post-war years. The gold inflows of the thirties and the post-war period, for instance, are shown to have played a much more important role as causes of low interest rates and excessive bank liquidity than the successful sterilization policies of 1936-7 would have led one to expect. The "debt monetisation" problem is shown to have consisted of two quite distinct phases: (a) "pattern playing", due at bottom to support by the System (in deference to Treasury wishes) of an unduly low bill rate which, throughout 1946 and 1947, required action to offset monetisation of the floating debt and *downward* pressure on the long-term rate; and (b) *upward* pressure on the long-term rate, from the last months of 1947 onwards, which involved monetisation of the long-term debt so long as the authorities remained committed to par support of 2½ per cent bonds. The System's handling of the 1949 recession does not get a very high rating from the author "as an example of quick action to influence the timing and direction of lending". But he argues that the handling of the security market as an instrument of credit

expansion in 1949 paved the way for the abandonment of par support in March 1951 by showing the advantages of "flexibility both ways": "The merits of flexibility *downwards* could be used to demonstrate the futility of too much lack of it *upwards*." Interspersed in the story, there are useful accounts of the organization of the New York government bond market, the relative functions of the Federal Reserve System and the Treasury under the United States constitution, changes since 1933 in the character of the American stock market, and other institutional information.

But the value of this book extends much beyond its contribution to American monetary history. It is the first full-scale study of the revolution in the art of central banking which has come about since World War II. The essence of this revolution is that debt management has replaced traditional central bank techniques, such as open market operations and reserve requirements, at the centre of the stage. The change has been more conspicuous in the U.S.A. than in the United Kingdom where the national debt was already large enough during the inter-war period; and it is less relevant to Australia where a rudimentary money market and narrow bond market provide, as yet, little scope for subtle operations designed to influence the liquidity of the banking system and the public. But close study of Mr. Fforde's book can be recommended to anyone interested in possible refinements of central banking methods in this country.

The book should also be read by monetary theorists. They may find it a puzzling exercise to work out a theory of interest which would fit the facts here described. They may even end up by embracing Mr. Fforde's scepticism: "Theory is either rough and ready or else a series of endlessly complicated permutations which are better replaced by history".

H. W. ARNDT

Canberra University College.

Home and Foreign Investment 1870–1913. By A. K. CAIRNCROSS. (Cambridge, 1953.) Pp. xvi + 251. 30/- stg.

For many years now we have been tantalized by references, in other people's writings, to the unpublished work of Professor Cairncross, whose data on British investment 1870-1913 have, in his words, "led a lively subterranean life in the footnotes" of his colleagues. But that form of publication can produce unwelcome results. Professor Cairncross explains his decision to publish—after very substantial revision: "How often have I since come on some series of mine dressed in unfamiliar uniform and marching and countermarching in an impossible campaign! . . . If I am to be honoured by quotation, I wish also to be honoured by criticism. The statistical

material may be worth using, but only if its limitations are exposed to all who may wish to do so."

The decision to publish is very welcome indeed. Expert evaluation of the statistical series and their construction will only come over time and is no task for a review. But even one who met Professor Cairncross's work for the first time in this book would be sure that, in the main, his statistical work will survive the experts.

What should be stressed is that the book is much more than statistical series with explanatory notes—though Professor Cairncross treats us handsomely and fairly as few statisticians do. Here is a major contribution to vital aspects of British economic history, presented with lucidity and insight. Those who are not specialists in the field will learn much. The specialists are presented with statistical material, fully explained, as invaluable aids to further work. It should be, too, compulsory reading for all who make investment estimates for any country or any period.

Cambridge have done a good piece of work. Text sprinkled with statistics and broken by numerous tables is a challenge to a printer; in this case the end-product is pleasantly readable and attractive to the eye.

S. J. BUTLIN

University of Sydney.

Papers in English Monetary History. Edited by T. S. ASHTON and R. S. SAYERS. (Oxford, Clarendon Press, 1953.) Pp. 167. 33/6 Aust.

These eleven papers have no defined purpose beyond the wider circulation of articles published in war-time, or otherwise in short supply. The pure historian will be disappointed by inadequate treatment of the role of monetary phenomena in economic development, for these articles are concerned with the evolution of monetary ideas dressed in empirical clothes. But no one will be unrewarded.

Two articles from Mr. Horsefield discuss Bank of England principles and policy 1793–1804, rather than the "Duties of a Banker". Evidence before Parliamentary Committees is used to elucidate the evolution of Bank policy in these years of rising prices, note issues, suspension, etc. A third article on Bank Treasure concentrates on the same period despite wider intentions, and a fourth discusses circumstances surrounding the inclusion of important clauses in the 1844 Bank Charter Act. Professor Sayers complements this discussion with a survey of Ricardo's monetary theory and his influence on the Act of 1844. On the other hand, Professor Fetter brings evidence to demolish the myth that Ricardo dominated the Bullion Report of 1810. And he reminds the reader that Britain was not on a full gold standard prior to 1797 because gold export was prohibited by law.

A paper from Professor Ashton on the "Bill of Exchange and Private Banks in Lancashire 1790–1830" is of wider interest than this title suggests, for he shows the primitive nature of early banking by corn-dealers, brewers, etc. Students of early Australian monetary history would do well to read this English parallel. And a reprint of four delightful letters contains a graphic description of the failure and subsequent recovery, with Bank of England assistance, of Pole, Thornton & Co., City Merchant and Banker, in 1825. An article by the late Professor Barrett-Whale concludes this pre-1850 discussion, by reviewing the influence of the 1844 Act on later monetary development.

An air-raid destroyed publishers' stocks of Professor Sayers's book on the Bank of England 1890–1914, but Chapter IV on Gold Market operations appears in this collection. Gold devices (e.g., advances without interest on gold import) became orthodox Bank policy in the 'nineties, owing to the ineffective use of Bank Rate. The last article, from Professor Barrett-Whale, introduces further qualifications to text-book exposition of the pre-war gold standard. And basing his argument on more dubious, but suggestive assumptions, he introduces an alternative hypothesis to classical theory. Gold flows *accompany* changes in the level of activity and volume of credit, but do not *cause* appropriate adjustments. His argument is important and requires further study.

J. D. BAILEY

Australian National University,
Canberra.

Glyn's, 1753–1953 — Six Generations in Lombard Street. By ROGER FULFORD. (Macmillan, London, 1953.) Pp. xvi + 267. 21/- stg.

This book is a history of Glyn Mills & Company. Economists may find it something of a disappointment. The paucity of records covering the past and the claims of the confidential relationship between banker and customer in the present have combined to prevent any detailed discussion of the Bank's business. As a result, although Glyn's was founded in 1753 and remained an important private bank (deposits exceeded £35 millions at December, 1938) until its amalgamation with the Royal Bank of Scotland in 1939, Mr. Fulford's history throws little light upon the evolution of private banking. It is, however, a well-written and very readable account of Glyn's progress which places its main emphasis on the great families connected with the Bank and upon the contributions of some of the outstanding partners. Many economists would have preferred something more detailed—particularly in regard to Glyn's business—but this Mr. Fulford could not provide for reasons already stated.

In general, such points as do emerge from the book are familiar. Private banking was a highly personal business in which the standing, both commercial and social, of the partners was of decisive importance. Mr. Fulford amply makes this clear and points out that the House owed a great deal to the admirable choice of wives made by the original (and later) partners. From Sir Richard Glyn's first marriage to a lady "worth £30,000" to his descendant's George Carr Glyn's with Marianne Grenfell, the Bank benefited from what Mr. Fulford calls "the partners' most judicious selections" (p. 97). From the family alliances contracted in this way the Bank received aid in the crisis of 1772 (p. 32), lucrative accounts (pp. 94-5), many remunerative agencies for country bankers (pp. 95-6), and an entry into the world of railway finance which led to its gaining a vast business and the name of the "Railway Bank" (pp. 120-136).

The Bank's close connections with railway development raise an interesting question which, unfortunately, Mr. Fulford does not directly discuss. Did the Bank provide long-term capital for railway expansion? It certainly did for the construction of St. Katharine's Docks (pp. 118-9). In view of the traditional British banking distrust of this type of transaction (largely a *joint stock banking* tradition), is it possible that the absence of industrial banking in Britain is partly due to the decline of private banking and the rise of banks which "aim at making all cases conform to their established rules" (p. 113).

The Glyn family played an important part in the monetary controversies of 1797–1860. Sir Richard Carr Glyn gave evidence before the Select Committee of 1797. His fourth son, George Carr Glyn, later the first Baron Wolverton, was a witness before the Committee of 1832 and the Lords Committee of 1848, and a member of Commons Committees at 1847–8, 1857, and the Secret Committee of the same year. Mr. Fulford's discussion of his part in these important proceedings (pp. 112-116) is brief—to the reviewer's mind, far too brief—while his account of the Mills and Hallifax families (pp. 73-92) is too long. Perhaps the need to balance the family contributions is the explanation, but to the economist's eye the space given to the social graces of the Mills brothers and to the Villa Mills at Rome seems excessive, but then "The object of the book (was) not . . . to tell a purely economic story, but rather to show the Bank and its partners as a microscopic tributary to the stream of British history" (p. vii). This object has been pleasantly, and sometimes instructively, attained.

David Rowan

University of Melbourne.

Newtonian Classicism and Darwinian Institutionalism. By DAVID HAMILTON. (University of New Mexico Press, Albuquerque, 1953.) Pp. 138. $1.00.

Professor Hamilton's purpose is to identify the fundamental points of difference between "classical" and "institutional" economics. "The classical economists" are defined as "all those in the main stream of economic thought from Adam Smith to J. M. Keynes"; in effect, all economists other than the institutionalists. They include, for example, David Ricardo, J. S. Mill, J. B. Clark, Lionel Robbins, and K. E. Boulding. "Institutionalism" is regarded as "that economic theory developed by Veblen and those American economists who have largely adhered to the outlook and major premises of Veblen".

It seems that the institutionalists themselves have been unable to give a clear and unanimous answer to the question posed by Professor Hamilton. Does the distinguishing mark of institutionalism lie in the use of inductive methods and empirical studies? Or in the refusal of institutionalists to consider economic activity in isolation from the rest of human behaviour? Or in the attention they have given to the influence of institutions on economic behaviour? Different writers have stressed different aspects of the institutionalist case against "classical economics". But, Professor Hamilton argues, there is one common element which can be discovered in the work of all institutionalist economists: "they all have criticized the classical political economists for failing to deal satisfactorily with change".

Having adopted this point of view, Professor Hamilton proceeds to analyse at length the concept of change in "classical" and institutional economics. "Classical" theory grew up in the eighteenth century when the ideas of Newton affected every branch of philosophy; it still reflects his influence. "The classical economists" have always thought of change as a mechanical movement from one equilibrium to another, in response to a disturbance of the initial position by external factors. On the other hand, it is claimed, institutionalism is a product of Darwinian methods of thought: change is regarded as an integral part of economic life; and it is held that the business of the economist is to study the process of cumulative change, rather than equilibrium or movements between equilibrium positions. Finally, Professor Hamilton tries to show that these concepts of change follow from the "frames of reference" adopted in classical and institutionalist theory—that is, the different ideas of human behaviour, social organization, and economic progress employed by each of the two schools.

This study will probably be of considerable interest to economists engaged in the teaching of methodology. It could perhaps be argued that some of the generalizations concerning "classical economics"

are a little forced, or at least over-simplified, covering as they purport to do nearly two centuries of economic thought from Adam Smith to the present day. Readers may sometimes suspect that they have not fully grasped Professor Hamilton's meaning, and they may feel that he has not always explained the logical connections in his argument at sufficient length to ensure that a "classical" economist will be able to follow them.

G. S. L. TUCKER
University of Melbourne.

Wesley Clair Mitchell, The Economic Scientist. Edited by ARTHUR F. BURNS. (National Bureau of Economic Research, New York, 1952.) Pp. ix + 387. $4.

The making of memorial volumes is a difficult business. So many parties must be considered. Piety dictates that the result should not be one that would have been unwelcome to the subject. His friends, students and colleagues, whether as sponsors or contributors, will all have their views as to what should be done—not uninfluenced by the nature of the contribution they propose to make themselves. The editor must aim at yet another compromise, between readers of the immediate and those of the more remote future. He will probably determine in the end that his major duty is to the latter. The confirming or outraging of the prejudices of those who knew the man is a small matter compared with conveying to a future generation what manner of man he was, why his contemporaries thought him important, why they liked him. Only when he has reached that point do a memorial editor's real troubles start. He has to make a volume which ought to be fashioned with that purpose in mind, and should take its pattern from the nature of the man being honoured and from his work; the materials to hand are inevitably contributions from writers whose work may have in common only their disregard of the long-term purpose of a memorial.

Judged in this light, the present volume must be deemed very successful. To non-Americans the attitude of Mitchell's colleagues and students to him, a sort of cosy domestic reverence for the head of the family, has always been a little puzzling. Here are the answers.

The structure of the book is simple. Part I is devoted to "Life and Work", in which one has all the formal information on Mitchell's life, his academic work, his publications, and his major effort, the National Bureau. The most illuminating section is a long narrative by his wife, a sensitive, detached yet warmly partisan, account of the man and his work as his wife knew them. Part II reprints three early estimates of Mitchell's work, while Part III is a longer series of final appraisals of different aspects of Mitchell's work, including essays by Hansen and Schumpeter. A bibliography completes the volume.

Necessarily, this method of making a book entails a good deal of repetition, repetition not merely of facts but of comments which are essentially the same ones. But the reiteration does achieve the effect of stressing that Mitchell the person was as important, as stimulating and encouraging, to those who knew him, as was his written work. Perhaps the moral is that future generations will accord Mitchell a place in the history of American economics rather below the top, though still an honoured place: they can hardly fail to know the man whose work they are evaluating.

S. J. BUTLIN

University of Sydney.

Alfred Marshall and Current Thought. By A. C. PIGOU. (Macmillan, London, 1953.) Pp. vii + 85. 7/6 stg.

Professor Pigou emerged from retirement to give the 1952 Marshall Lectures in Cambridge. Part I of this small book is made up of the six lectures delivered then. Part II consists of a short essay on "The Trade Balance" which is only related to the Lectures in that it was written about the same time.

In the Marshall Lectures, Professor Pigou set out to sketch for us, in the light of Marshall's writings and his own intimate knowledge of the man, how Marshall would have felt about certain modern trends in economic theory and practice. This he essays under six heads: Mathematical Methods, Statistics, Elasticities, The Rate of Interest, Utilities, and Socialism.

Naturally, the result is to tell us rather more about Marshall and his times than about contemporary theory and our times. Indeed, for the present-day student, who often finds difficulty in "adding up" Marshall, this book provides an excellent short introduction to Marshall's method and his Weltanschauung, as well as to certain Marshallian concepts which have become cornerstones of theoretical economics. The more mature reader will also find this a pleasant and interesting retreat from the more and more incomprehensible material of the learned journals and other literature of the subject in these days. In this latter regard, there is some comfort to be found in Professor Pigou's first Lecture, where he discusses Marshall's dictum "that a good mathematical theorem dealing with economic hypotheses was very unlikely to be good economics".

The essay on "The Trade Balance" provides a brief and, in part for this reason, very useful bridge between first principles and practice and, in particular, practice as it is reflected in governmental Red, White, or Blue Books.

R. O. HIESER

Australian National University.

The Cost of Industrial Movement. By W. F. LUTTRELL. (Cambridge University Press.) Pp. 104. 18/- stg.

This is a report prepared by a research worker of the National Institute of Economic and Social Research on "the economics of establishing branch factories". The post-war records of four firms are examined (three shoe manufacturers and one engineering firm) and costs at their branches compared both with actual costs of similar products at the main works and with the estimated extra cost of equivalent output at the main works.

The range of interest of this book is from the academic economist to the business manager. The former will find it useful to be reminded of the importance of factors other than size and factorial proportions determining cost of production and profitability; the businessman will find valuable data on the influence on operating results of such things as training methods and distance between branch and main unit; the public official or politician, on reading it, will be in a better position to decide in what circumstances a policy of decentralization is likely to succeed.

In the preface of this work Sir Henry Clay describes it as an interim contribution to the study of questions of location of industry. If the final report fulfills the promise of Mt. Luttrell's initial efforts it should be welcomed by all those who seek guidance in making decisions on such matters.

D. M. HOCKING

Melbourne.

Strikes : A Study in Industrial Conflict. By K. G. J. C. KNOWLES. (Blackwell, Oxford, 1952.) Pp. 330. 42/- stg.

This monograph, the third so far produced by the Oxford University Institute of Statistics, comprises a comprehensive and penetrating analysis of industrial strife, with special reference to British experience over the period 1911 to 1947. As such it deals with a subject of great topical interest which has not hitherto received the attention it deserves.

The work falls conveniently into two parts, the first of which is largely descriptive, and the second analytical. Thus the first three chapters are devoted to an historical account of the changing character of strikes and the various factors which have contributed to this development. Of these, the more important are the growth of trade unionism, employers' associations, employer-employee relations and State intervention in industry as well as various forms of legal and other restrictions on strike activities.

The remaining two chapters are devoted to an analysis and interpretation of British strike statistics over the thirty-seven years

from 1911 to 1947. The pattern of strike activity is viewed against a background of various economic and non-economic conditions over the period, both as regards industry as a whole and particular industries, as well as geographical regions. This mode of treatment helps to throw a good deal of light on an important but hitherto largely neglected aspect of industrial relations by investigators in this field, namely, why strikes should persistently occur in certain industries rather than in others. In dealing with the causes of strikes, underlying causes such as discontents arising from the status of workers in society, which cannot of course be measured statistically, are carefully distinguished from various immediate causes such as wages, for which statistics are available but which may be largely symbolic of other discontents. The consequences of strikes are considered from various angles, namely their immediate results, and their economic as well as their social and political effects. Consideration is also given to the limitations of the data relating to the consequences of strikes as well as to various factors which may have influenced the results of strikes, as for example, unemployment and the changing character of strikes. There is an extensive statistical appendix and index.

No attempt will be made to summarize the results of this work in a brief review. This is a masterly piece of painstaking and sustained research which shows that the author has not only a thorough knowledge of and genuine respect for the difficult statistical material which he analyses, but also a remarkable acquaintance with a wide variety of background literature. The work will prove an invaluable source of reference and inspiration to all social scientists who are engaged in teaching and research in the field of industrial relations.

D. W. Oxnam

University of Western Australia.

Nationalization in Practice : The British Coal Industry. By William W. Haynes. (Bailey Bros. & Swinfen, London, 1953.) Pp. xviii + 413. 32/- stg.

The Price of Fuel. By I. M. D. Little. (Oxford, Clarendon Press, 1953.) Pp. xiv + 194. 20/9 Aust.

Dr. Haynes's study of the British coal industry under nationalization, a doctoral thesis in the Harvard Business School, is, as the author says, mainly concerned with management and labour problems, though two of the eighteen chapters are devoted to price and investment policy. The subject is treated in a moderate and sensible way, and though nothing is easier and cheaper than reorganization on paper, the author does not much indulge in it. Extensive use is made of first-hand information gained "by going down into the mines, by

staying in miners' hostels, by visiting mining communities, by talking with workers, mine managers, staff specialists, regional executives and the chairman of the Coal Board itself".

A favourite prescription for the nationalized industries is decentralization. Dr. Haynes attacks the vague advocacy of this course, "which draws support even though not clearly defined; the term has replaced the old battle-cry, 'nationalization'." He found that almost every official favoured decentralization in the abstract. "For example, one Area General Manager who was obviously an extreme centralizer in his own Area, expressed himself for an hour on the evils of centralization. To him 'decentralization' meant less interference from the National Coal Board and Divisional Coal Board and more authority for himself." It is suggested that colliery managers who had worked for the larger concerns were not much disturbed by nationalization, having already become accustomed to reports, specialists and a hierarchy of command. Remarking that "principles condemned by one set of experts are found to be eminently workable in large numbers of organizations", Dr. Haynes opposes radical changes and the disruption of the "developing informal organization" until there has been further experiment within the present framework.

What is likely to be much more fruitful than a large-scale redrawing of organization charts is the clearer definition of existing responsibilities. In the coal industry, problems of responsibility are made especially acute by the constant danger to which its workers are exposed. Dr. Haynes illustrates his case from an accident in 1950 in which thirteen miners were killed, and which was due to lack of effective liaison between planning engineers and management.

In his chapter on the relations of the Coal Board to Parliament and the Minister of Fuel and Power, Dr. Haynes points out a difficulty in the "position which favours both more detailed ministerial questioning and greater decentralization—two objectives which would be difficult to achieve at the same time". He himself favours a greater willingness to answer questions than the Labour Ministers displayed: for instance, refusal to answer questions about the size of the Coal Board staff helped the Press to spread suspicion throughout the industry. (Dr. Haynes says that many of the miners' grumbles "seem to have been taken right out of the popular Conservative Press".)

Mr. Little's new book will be read with interest even by economists whose fields are usually too wide or too narrow to allow much time for a subject like fuel prices in the United Kingdom.

The factual background to the discussion consists mainly of two elements. First, since nationalization the British Government's fuel policy has, to quote Mr. Little, "been limited, on the side of supply,

to telling the nationalized industries that they must cover their total costs, and, subject only to this limitation and occasional ministerial directives, get on with the job of supplying their product in amounts and at prices which will be in the national interest. The various public boards have interpreted this to mean that they must neither make profits nor losses (taking the good years with the bad)". In other words, prices have been kept down to average costs reckoned over some period longer than a year.

At these prices there has been a chronic (and periodically acute) shortage of coal, the primary fuel. The shortage has been met by restricting badly-needed exports and rationing the domestic consumer for coal, though not for gas or electricity. At the same time, waste of coal through inefficient combustion has continued to be general in both the factory and the home.

The second main feature of the situation relates to electricity only. In their pricing policy the electricity authorities have largely ignored an important and obvious application of marginal theory by making little attempt to deal with the problem of the "peak load". The consumer whose requirements mean investment in fresh capacity, kilowatt for kilowatt—who, for example, installs a radiator to help him out of bed on winter mornings when the factories are starting up and the power-stations may already be fully loaded—has usually paid no more for his current than people whose requirements are limited to the middle hours of the day; he has, therefore, in effect, been recklessly subsidized by off-peak consumers. The result has been on the one hand power-cuts and on the other hand enormous diversion of capital resources to the construction of generating plant. "Gross investment in fixed assets by the electricity authorities has been almost one-third of that in the whole of manufacturing industry."

Mr. Little's principal suggestions, so far as coal is concerned, are that its price should be raised to a level which would roughly equate supply and demand. It is also recommended "that there be a complete reform of electricity tariffs, every consumer being brought on to either a time-of-day or a seasonal tariff".

These and other recommendations in the book are, as Mr. Little emphasizes, by no means original. The arguments against a rise in the price of coal are also familiar. In particular this proposal seems to lead straight to a dilemma: if a rise in price is large enough to promote economy in use will it not also be large enough to affect export prices of manufactured goods directly and, by raising the cost of living, to set off demands for higher wages? Mr. Little accepts the view that the direct effect on export prices would be negligible. On the other hand, "the statement that fuel costs should be raised appears to make every industrialist grow pale; which suggests that

they are, after all, acutely concerned with all their cost categories, however small''. Industrialists may decide against fuel-saving devices at present, not on any *de minimis* principle, but simply because such devices are too dear relatively to coal. As for the rise in the cost of living due to the increased price of coal to the domestic consumer, this would be offset by using part of the National Coal Board's profits for increased allowances and pensions, etc.; domestic solid fuel appliances of an approved standard of efficiency would also be subsidized.

The book includes a brief defence, against any criticism the reader may have in mind, of the application of ''familiar economic principles'' to the subject of fuel policy. A short section is devoted to the problem of assessing marginal cost (allowing for transport) in the coal industry. As a guide in the immediate future marginal cost is emphatically rejected: it is totally irrelevant. ''So long as demand is in excess of supply it has no point or theoretical justification at all.''

Another policy which Mr. Little attacks, at least in its application to gas and electricity, is the encouragement of competition between nationalized industries. ''The structure of gas and electricity costs, and their relative monopolistic positions, are such that competition, especially when the profit motive is set aside, cannot but result in a harmful development.''

There is an appendix in which the prospects for nuclear power are considered in relation to the proposals.

Since completing this book Mr. Little has taken up a temporary position in the Civil Service. One must hope it is within sniping range of the Ministry of Fuel and Power.

F. G. Davidson
University of Melbourne.

Milk Distribution and Pricing in Great Britain. By Leland Spencer and Stewart Johnson. Bulletin 902, Cornell University Agricultural Experiment Station. (Ithaca, N.Y., 1953.) Pp. 147.

This study of milk distribution and pricing in Great Britain was undertaken by a professor of marketing from Cornell University and a professor of agricultural economics from the University of Connecticut. The incentive to the study was the criticism common in the United States that the marketing of milk there was wasteful and the belief that this criticism might be evaluated by the study of rationalized schemes of milk marketing elsewhere. The British milk marketing scheme was chosen for study because it was the most highly developed system—and also because ''language differences were not serious''!

The study as well as being based on official and other publications involved substantial investigation in the field. The topics covered by the survey were: the production and utilization of milk; distribution methods and agencies; consumption of and demand for milk; the pricing of milk to producers, dealers and consumers; the unified system of collecting milk from farms; and the zoning of milk distribution in cities.

Like very many other bulletins of the agricultural experiment stations in the land-grant colleges and universities of the United States this bulletin contains a great deal of descriptive material. It provides a very useful account of the mechanics of the distribution of milk in the United Kingdom. It also attempts, however, evaluation and criticism. It is refreshing in this study to see American writers seeking to learn from other countries something relevant to their own problems.

JAMES P. BELSHAW

University of New England.

Readings in Business Cycles and National Income. Edited by A. H. HANSEN and R. V. CLEMENCE. (George Allen & Unwin, London, 1953.) Pp. xi + 588. 30/- stg.

This substantial collection, containing thirty-seven papers, is divided into seven parts covering historical episodes, business cycle theories, economic dynamics, econometrics, international and inter-regional aspects, long cycles and cycle policy. It is apparently intended as a companion to Professor Hansen's excellent survey *Business Cycles and National Income* (Norton, New York, 1951), and is designed for the use of undergraduate students. A few introductory comments on each paper are given, but although they are supposed, according to the Preface, "to supply some basis for the development of independent judgements", they are mainly biographical. Some of these comments read a little oddly. I suppose it is necessary to explain to American students that Harrod's standing as an economist is not affected by his not having the title of professor!

Professors Hansen and Clemence have produced a very worthwhile collection. To mention only a few of the better known papers, we are presented with the famous *Economic Journal* articles of Kahn (1931) and Kaldor (1940) and the papers of Harrod and Hicks which later blossomed into *Towards a Dynamic Economics* and *A Contribution to the Theory of the Trade Cycle* — but as for these latter two, should not we regard the books as having replaced the papers?

This new volume, together with *Readings in Business Cycle Theory* (Blakiston, Philadelphia, 1944) provides students of business

cycle theory with a very comprehensive collection of readings. There is no doubt that such a collection is very useful for many reasons, but it is to be hoped that the existence of such collections as the one reviewed here will not stop undergraduate and post-graduate students going to the learned journals. A reference to a particular paper in a journal often leads to the discovery of other papers of interest in the same volume, and, quite apart from this, students ought to get the feel of the journals themselves.

P. H. KARMEL

University of Adelaide.

Theory of Economic Dynamics. By M. KALECKI. (George Allen & Unwin, London, 1954.) Pp. 175. 18/- stg.

To the student of economic growth, this "essay on cyclical and long-run changes in capitalist economy" will be most welcome. It compares favourably with the work of Domar, Hicks, Harrod and Steindl, and is, indeed, an advance thereon. There are six sections: Degree of Monopoly and Distribution of Income; Determination of Profits and National Income; The Rate of Interest; Determination of Investment; The Business Cycle; Long-Run Economic Development.

The book comes in place of a reprint of two earlier ones.* It contains more statistical illustration; clearer arguments surround the formulae; chapters on shocks and trend contain new material. There remain, however, the terseness of style, facile use of algebra and time series, and adroitness in coping with a large number of variables. One may note, too, Kalecki's complete lack of reference to the literature.

For his cycle-trend model, Kalecki makes four assumptions. Foreign trade and the budget are in balance: workers' savings are zero: interest rates are stable over the cycle. He then selects the variables which determine the rate of investment decisions and so the level of economic activity. These are past savings (S), and past rates of change in profits (P), capital stock (K), and gross product (O). Their functional relationships are so defined that all the variables which determine real investment (I) at a given time can be expressed in terms of I, allowing time lags where necessary. The problem of the cycle is therefore contained in one equation with one unknown (I), variously lagged and replete with appropriate co-efficients.

This cycle equation (p. 123) has the following main features:

(1) It includes more factors than is usual in models (e.g., such income distribution factors as the overhead character of salaries and the system of profit taxes). This is partly made manageable by the

**Essays in the Theory of Economic Fluctuations* (1939), and *Studies in Economic Dynamics* (1943).

assumption that many factors have small values or are constant over the cycle, so disappearing in the process of differentiation. Moreover, the level of I over time, and so the cycle, depends on the choice of lags, as is clear in his statistical illustrations.

(2) Generalized multiplier and accelerator effects appear in the equation (pp. 62-4, 100). These are not the specific relations or constant values which one associates with, e.g., Hicks or Domar. They are more generalized forms of multiplier and marginal capital-output ratio, stemming from Kalecki's basic equations of the relationship between I and its determinants. Still, there remains the basic element, common to Kalecki and others, that cyclical processes can be generated when expenditure depends partly on the level of income and partly on changes in the level of income (p. 119). (This is made certain by the introduction of autonomous or trend factors.) Concern for accurate measurement and constant relations obscures this fundamental of cycle theories. One may object, however, that Kalecki, like many others, neglects monetary factors in the determination of accelerator-multiplier effects (cf. Yaegar, *A.E.R.*, March, 1954).

(3) The mechanism of the "automatic" cycle is embodied in the term $\frac{a}{1+c}$ which expresses the influence of current savings on I (via a) and the effect of increases in capital equipment (c). It is these two factors which, along with the rate of change in P and O, largely give the cyclical pattern to the level of I and economic activity. Kalecki has some doubts regarding the automatic nature and strength of the upswing, but the introduction of an upward trend would solve the problem. He feels, too, that damping is inherent in the cycle, but that this can be overcome by the assumption of random shocks or trend. One may cite for comparison Kaldor's view (*E.J.*, March, 1954) that it is the strength of booms which shapes the trend rate of growth, and Hicks's belief that the cycle is "explosive".

To the cycle equation, Kalecki now adds trend elements which represent the "development factors" innovation and rentier savings. If these factors (d') are added, I cannot remain at depreciation level, but must rise. Moreover, the increase in I which occurs when d' is positive affects the other terms of the equation, so further raising the trend level of I. In this way, to a limited extent, Kalecki does overcome Kaldor's objection that many "dynamic" models superimpose a long-run trend without altering the basic character of the cycle model. But Kalecki's use of d' is not sufficient to counter Kaldor's criticism that the trend is introduced as a datum, and not explained. Kalecki offers no systematic explanation of the d' factors, but merely a short series of suppositions regarding innovation as a trend factor

(e.g., *imagine* a decline in the intensity of innovations). Such vague references do not provide explanations of the determinants of trend (e.g., of entrepreneurial motivations, or attitudes to risk-bearing) which are needed for a complete theory of economic development.

Here, then, is a study of the business cycle and long-run trend which is valuable for its attempt to explain the basic determinants of investment, to express them in an equation which is broader in scope than, say, Hicks's super-multiplier, and to enumerate and examine "development factors", showing their effects on the components of the basic equation. As we have seen, the attempt falls short of the goal, thereby emphasizing two crucial aspects of the theory of economic development which need further work. One is the problem of measurement—finding the actual size of and relations between variable over time, and using these relations in building and testing models. The other is the examination of "development factors". This involves the explanation of their nature and operation, and especially the explanation of the processes of interaction between them in a system which does not start from an endogenous cycle mechanism.

BRUCE M. CHEEK

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Essays in Positive Economics. By MILTON FRIEDMAN. (University of Chicago Press, 1953.) Pp. v + 328. $5.75.

This book consists of a series of articles which, with one exception, have been previously published. The rationale of such a collection is usually some unifying idea underlying the articles. In this case the common factor is claimed to be the "conception of economic theory as a positive tool for the analysis of concrete problems". However, it might be preferable to consider the articles as falling into two groups: the first concerned with methodology and the second with some contributions to counter-cyclical policies. There are, of course, common factors — both groups are concerned with positive theory as an aid in the analysis of problems, and both imply an opposition to the intrusion of normative considerations as biasses in the formal logic of positive theory — but these factors condition the mind of the author rather than the subject matter of the articles.

In the first set of articles, the author expresses a belief that the major source of conflict in public discussion on economic problems lies in divergent predictions of the actual consequences of intended action rather than in different opinions on the desirability of the officially anticipated consequences. Progress in positive economics will minimise this unproductive discussion and allow more rational consideration to be given to the aims of economic policy. He then proceeds to deal with some methodological issues in positive economics.

A "theory" is held to consist essentially of two parts: an *abstract world,* or *model,* and a set of rules specifying the way in which, and the conditions under which, the components of the model can be considered to have their counterparts in the real world. The rules thus set out the conditions under which the theory can be considered to work. Its sole purpose is to predict the consequences of some change in initial conditions, not to explain how these consequences arise: it is a method of predicting the end-results of a process, rather than a description of that process. Naturally the theory will describe *some* process in the abstract world. Provided, however, that it gives a good estimate of the result of the real world process, there need be no correspondence between the process it describes, and that which operates in the real world. It is "acceptable" if its results are similar to those which are obtained in fact.

If, then, equivalence between the *real world* and the *model* is not necessary before a theory can be acceptable, it is a false approach to positive economics to criticize a useful theory on the grounds that the model is unrealistic. On the other hand, because the model is abstract, it restricts the use of the theory to a "certain class of phenomena", and application of the theory to phenomena outside this class may give wildly inaccurate predictions. This raises a problem which Friedman has not dealt with, namely: given a theory which works within this "certain class of phenomena", how does one proceed to enlarge its sphere of valid applicability? Surely one needs to analyse new problems to discover the various influences which have assumed a significance they did not have with the old problems. These influences then have to be provided for in the amended abstract world. This may be considered as making the model more *realistic,* but I cannot see how else, other than by pure guesswork (or intuition), to proceed.

Again Friedman states that the more important a theory is, the more unrealistic is the model. This may be admitted, but it must be added that there are more limitations which need to be placed on its use in particular problems.

The second group of articles examine the concept of a counter-cyclical policy, and provide suggestions based on this examination.

Friedman asks the question: under what conditions are counter-cyclical policies likely to be stabilizing? To answer this question he takes *ex post* national income (Z), which is generated under the influence of an operative counter-cyclical policy, and divides it conceptually into (i) that income (X) which would have been generated in the absence of such a policy, and (11) the remainder (Y) which he attributes to the cumulative effects of the policy to date. By definition, a tendency to stability exists when the variance of $Z(\sigma_z^2)$ is less than

the variance of X(σ_x^2). Since X + Y = Z, the relation between the variances of the three variables is:

$$\sigma_z^2 = \sigma_x^2 + \sigma_y^2 + 2r_{xy}\sigma_x\sigma_y$$

where r_{xy} is the coefficient of correlation between X and Y. From this it is obvious that:

$$\sigma_z^2 \gtrless \sigma_x^2 \text{ when } r_{xy} \gtrless -\frac{1}{2}\left(\frac{\sigma_y}{\sigma_x}\right)$$

For a stabilizing effect to exist, one must have:

$$0 > -\frac{1}{2}\left(\frac{\sigma_y}{\sigma_x}\right) > r_{xy} \geqslant -1$$

That is, there is a certain negative value for the correlation (between income in the absence of counter-cyclical policy, and the cumulative effects of such a policy on income) above which a counter-cyclical policy will be *de-stabilizing*. Interpreted, this implies that, unless the effects of a counter-cyclical policy are fitted reasonably well to the need for such effects, the policy may actually produce fluctuations larger than those it was intended to mitigate. (Incidentally, on page 125, line 26, σ_y should read σ_x.)

On surveying the state of economic theory to-day, and considering the time lag before action is likely to be taken in any particular case, Friedman arrives at the conclusion that "discretionary" action on the part of governments to counter fluctuations in income is just as likely to be de-stabilizing as it is to be stabilizing. Only in the case of large and persistent movements in income can the government be given a good chance of producing "counter" effects in the right direction.

Friedman's suggestions are thus based on the desirability of reducing "discretionary" action to a minimum, and replacing it by "built-in stabilizers". For example, he suggests that the government should decide on its total expenditure, and then set the taxation rates so that it would balance its budget if the economy were fully employed. If the economy was not fully employed, then the budget deficit from revenue would be met by governmental creation of money. On the other hand, if there was over-full employment, the budget surplus would be sterilized. The elimination of discretionary action would be extended to the banking system, which would be prevented from creating credit: i.e., it would be required to hold 100 per cent reserves against advances. Fluctuations in the balance of payments would be eliminated by free exchange rates. Commodity reserve currencies are considered but rejected on the grounds that an analysis of the past changes in the purchasing power of money, compared with those which would have occurred if there had been a commodity

reserve currency (with a metallic basis), does not show any particular advantage in the more complicated system.

Built-in stabilization sounds very attractive, especially as the counter-effects occur just when needed, but such a pill would need plenty of jam as an accompaniment, governments being so loth to relinquish their freedom of action.

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Workers' Housing Problems in Asian Countries. (International Labour Organization, Geneva, 1953.) Pp. vii + 177. No price stated.

This study is a report based mainly on information supplied by governments of Asian countries in reply to a questionnaire drawn up to elicit information about housing conditions in each country to put before the I.L.O. Asian Regional Conference held in Tokyo in September, 1953. The form of questionnaire is not given, neither is there any detail as to number of governments to which it was sent nor the names of the countries from which replies were received. No attempt is made to describe the housing situation region by region, but items are drawn from different areas according to the type of problem under discussion or the solutions suggested. Workers and trade unions, employers, and governments have each, in different localities, taken action to improve housing and build new dwellings, illustrations of the sort of things which have been done may be drawn from one or other of a dozen or so areas, from perhaps the Philippines, Viet-nam, Pakistan or Ceylon, where the situation in other respects may be very different.

Five chapters are devoted to measures undertaken by governments in the direction of expanding the capacity of the building industry, community planning, providing finance for home building, and conducting research on types of building materials, methods of construction and building design. The summary of National Housing Programmes of Burma, Ceylon, India, Indonesia, Japan, Pakistan, Philippines, Thailand, and Viet-nam, suggests that most of these programmes have advanced very little beyond good intentions and proposals to set up some body to do something.

It is clear that, while the basic cause of the horrifying housing situation is simple poverty, described as "low man hour productivity and the consequent low level of annual income per head", there are a number of developments of recent times, such as the increase in population, war damage, drift to the cities, movements of refugees, which have accentuated both the general poverty and the need for more houses. It also makes clear that, while "workers' housing is unquestionably one of the most urgent social and economic needs in

Asia", the possibility of bringing about improvements rests on the primary need "to maximize the rate of expansion in productive capacity". Thus attention to housing must either be restricted to those elementary improvements which have an immediate effect in making the worker a more effective element in the drive for increased production generally, or it must use only labour and materials which cannot at present be otherwise employed.

Stress is laid on the immediate value of "aided self-help", by which is meant "the method by which a family or group of families improves or builds houses or communities largely with their own labour, but with governmental or employer assistance for things which they cannot provide themselves", such as techniques, materials, equipment or money. Such schemes mainly provide "short-life" housing of clay, lime, wood, bamboo or thatch, but "from an economic point of view it is the kind of housing that Asian economies can afford", since it utilizes almost exclusively locally available materials and unskilled labour and raises few construction difficulties.

Such methods are less suitable in towns where land and materials are not locally available and where the problem is at its most acute; here the more permanent type of housing, requiring more advanced skills and more durable material, is essential.

Chapters 11 and 12, which deal with the formulation of programmes to provide housing of the short-life and permanent type respectively, are realistic and practical, and these chapters are perhaps the most useful part of the study. Another valuable characteristic is the full documentation which would allow anyone interested to make a more detailed examination of particular aspects or areas.

M. M. BAYNE

University of Melbourne.

Industrial Finance in India. By S. K. BASU. Third edition. (University of Calcutta, 1953.) Pp. xviii + 467. Rs. 12/-.

The first edition of this book appeared in 1939. The second seems to have been completed in 1945 but was published in 1949. While the third edition deals with some post-war developments, the book suffers because its structure was determined by the problems which appeared important during earlier periods. This is not to say that earlier issues are dead or that nothing can be learned from their consideration; but as a consequence the opportunity is missed of examining industrial finance in the context of the Five Year Plan, and in the setting of the new developments in international capital aid and technical assistance. Since most of the *available* current discussions arising out of these developments are by Western economists, many of whom have not had the opportunity to modify their preconceptions by personal

acquaintance with the situation in under-developed countries, it would have been most helpful if one with the knowledge and competence of Dr. Basu had posed the problem of industrial finance in India within the framework of the new situation.

This approach would have required, for example, some formulation of investment criteria in the light of prevailing technological, economic and other relevant conditions, and fuller consideration of the role of foreign capital. This last question raises interesting and important problems, not simply as to how private foreign investment might be encouraged and "married" with Indian capital, enterprise and management, but also as to how (as in Turkey) inter-governmental loans might be used to assist the private sector through the appropriate financial institutions. Since capital, technology and entrepreneurship are "packages", the problem of integrating technical assistance with such approaches is also highly relevant.

Perhaps half the book is concerned with an account of industrial finance institutions in a wide range of countries other than India. This may be disappointing to those expecting a fuller discussion of current Indian problems, but in consequence the author has performed a valuable service in bringing together in one publication information not readily available in English relating to such financial institutions. In respect of India, one of the most useful chapters makes a critical appraisal of the managing agency firm, which with adequate safeguards may well suggest a line of approach in other under-developed countries, in which capital markets are immature, there is a shortage of entrepreneurs, and ancillary services such as supply, marketing and technological advice are needed. Equally suggestive are Dr. Basu's consideration of the role of the State, his critique of the Industrial Finance Corporation of India, and his proposals for an Industrial Mortgage Bank. His consideration of the problem of finance for small and medium enterprises is less satisfying, though it recognizes their importance. In particular, it would have been useful to have Dr. Basu's views on the way in which finance capital (associated with an organized approach to improving the technology and organization of small power-driven concerns), might be made available to promote the use of idle labour in capital formation, and of under-employed labour in small-scale decentralized enterprises. In some cases, as in Japan, these latter might be integrated with larger concerns.

Lest these observations appear hypercritical, I would add that Dr. Basu has produced a highly competent study of the problems with which he is concerned, and a most valuable source book of information on institutions providing capital for industry in a number of countries.

H. BELSHAW

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Survey of Fertility and Mortality in Poona District. By V. M. DANDEKAR and KUMUDINI DANDEKAR. Gokhale Institute of Politics and Economics, Publication No. 27. (Poona, 1953.) Pp. xii + 191. Rs. 5, or 7/6 stg.

The authors present under this title the fruits of three rather different enterprises. There is first a competently executed sampling inquiry into the age-specific fertility schedules of both the urban and the rustic inhabitants of the Poona district. Secondly, the authors present a set of life tables for males and females under urban conditions only, which were extracted from material of the census count in 1951 and registers of birth and death kept by the Poona municipality. Thirdly, there is a tale of an "attitude survey" ostensibly designed according to cut and dried precepts of statistical textbooks, and purporting to elicit from humble Indian folk opinions about family limitation and birth control. But alas, the delicate subject—which might have inspired the enthusiasm of an Indian Zola—appears to have burst asunder the narrow confines of statistification, and it would seem best to describe this last part of the enterprise as a "survey with a mission".

The sampling inquiry does not break any new ground in regard to statistical methods, although the authors aimed at "biological families" rather than at "households" as their unit. Trained investigators equipped with a straightforward questionnaire elicited information regarding date and place of birth, residence, income, caste, religion, age at marriage, and (if applicable) data, place and cause of death, of the male head of the family, of his father and mother, his wife, his brothers and sisters, and his sons and daughters. The procedure is described in a lucid protocol, and the results have been set out in an orthodox manner. Surprisingly, only negative results were obtained when the authors tested whether marital fertility was affected in a perceptible way by such factors as "age of woman at marriage", "difference of ages of husband and wife", "caste", "occupation", "income", "number of living children", etc.

The life tables for Poona city have been compiled according to standard methods. When they are combined with the fertility schedules, the authors obtain the alarming net reproduction rate of 1·569 which seems, however, to be reasonably in accord with the true rates of natural increase of 0·01565 for males and 0·01641 for females that were otherwise computed.

The "attitude survey" consisted in firing against the abject subjects a formidable broadside of questions that went right down to the roots of moral responsibility. "In how many cases should you not have borne the child?" a woman is asked, and she is made to search her heart as to whether "all her children are adequately

fed''. No wonder that ''village women were too shy to discuss the matter singly . . . afraid of husbands . . . and fathers-in-law''. But where a number of women were collected, the authors report that they found ''some elderly women unexpectedly outspoken on many matters of vital importance, and once the ice was broken the discussion would proceed with great interest'' (p. 27). The authors are quite frank that the barrage of their questions (100 for men and 80 for women) ''are not impartial or passive'' but ''have an implicit directive in them'' (p. 25). Even where they did not hope for a useful answer they intended at least to get across a useful message.

Such mixing of research and preaching is somewhat strange to Western tastes; but it may well be that the promotion of a robust progenophobic revivalism is India's only hope of getting her desperate population problem under control. The pathetic case studies in the chapter which concludes this useful and illuminating book certainly lend vivid colour to such a diagnosis.

HARRO BERNARDELLI

University of Otago.

Legal Controls of International Conflict : A Treatise on the Dynamics of Disputes and War-Law. By JULIUS STONE. (Maitland Publications, Sydney, 1954.) Pp. lv + 851. £5/5/- Aust.

Professor Stone's earlier book, *The Province and Function of Law,* revealed, not only an extraordinarily wide knowledge of legal writing, but an almost equally impressive acquaintance with the literature of several other social sciences: his ability to bring this wide knowledge of social structure and working to bear upon the nature and operation of law was one reason for the importance of that book. It is probably the most ambitious and widely-ranging exploration of the ''sociology of law'' that has yet been attempted. The present book, though dealing with a very different subject, has the same fundamental concern with law as a social fact, interacting with a variety of human and social forces. Here, as in the other book, Stone has the needs of a number of different publics in mind, and the book may be used for different purposes. It might be taken as an exhaustive, critical technical treatise on that part of international law to which its title refers. Read in this way, the non-lawyer, of course, cannot comment on Stone's analysis of the many legal problems that fall within his province. But there are qualities in even this aspect of the book which the layman can recognize. There is obviously a tremendous knowledge of and command over the materials and sources of the law, and of the writings of other authorities. One sometimes wonders whether the footnoting and documentation are not rather overdone, and whether the author's argument would not strike home

more tellingly if it were freed to some extent from the prodigious apparatus of scholarship. On the other hand, the elaborate documentation, the very catholic and copious quotation that Stone goes in for (chiefly in footnotes) have one big merit; text and footnotes combined present the leading issues with great clarity and in extraordinary detail, with an abundance of reference to divergent views; so that the book really contains, not merely the author's own exposition of this branch of international law, but also a full and highly critical account of the state of contemporary legal opinion on the problems with which it deals, and of its historical development. The elements of the problems being so freely given, even the layman can appreciate the acuteness, thoroughness and solidity of the argument. There is no question that this book, considered simply as a straightforward treatise on a branch of international law, will be accepted as a major authority.

The non-lawyer who is interested in international politics will find much that concerns him even in those pages which deal most rigorously with the elucidation of legal principles. Three of the central chapters (VII to IX) are devoted to the United Nations Organization, and include discussions of questions which have been important in recent controversies concerning international policy: e.g., the legal compatibility with the Charter of such regional security arrangements as NATO and ANZUS, the effects of the veto on the Security Council, considered as a war-preventing agency, the legal issues raised by the Korean War and the exclusion of Communist China from the Organization. But the whole book may be read in a different way. Though its main substance is the examination of the rules and agencies relating to international conflict and war, the author's interest in the "sociology of law" is always present, and he makes constant reference to the political and other contexts within which the rules of law arise and operate—or fail to operate. The book may, therefore, be taken as a treatise on the character of international law, on the manner in which legal rules work, as one force among others, in affecting the relations of States with each other, and on the obstacles which limit their operation.

The author's interest in the manner in which social and political forces affect legal relations produce some new emphases, even in those parts of the text predominantly concerned with the elucidation of the legal rules. For example, he gives much more prominence to a discussion of the law relating to economic warfare than has been customary in the text-books (Book 3, Part III); and similarly to the problems connected with the communication of ideas between sovereign States; he has some interesting things to say in this connection about the effect of the "nationalization of opinion" upon the international

legal and political order (see, e.g., Discourse 15: *Radio Waves and Ideological Conflict*). Book I is devoted to a general discussion of the nature of international law, and of the main theories which have been advanced on the subject; it contains also a most important discussion of the main tasks which face an effective study of the problems of the law of nations. It is in this Part that Stone expounds and defends the conception of the sociology of international law which directs the detailed analysis of the law of conflict and war which occupies the body of the book.

Near the beginning of the book, Stone outlines and restates Max Huber's plea for the development of a sociology of international law. Although Huber's views were first published in 1910, according to Stone the programme he then outlined has never been fulfilled by legal scholars. Summing up his discussion of Huber, Stone remarks that "... international lawyers can no longer be content merely to affirm or deny the reality of international law or of the international community *en bloc*, but must accept Max Huber's challenge to assess, in the light of the facts, *the degree* and the *precise location* of this reality, within the mass of the traditional materials of international law. ... [The lawyer] must seek to expand knowledge of the *conditions of survival* of international law ..." (pp. 46, 47). And, in this sense, it may be said that the main importance of Stone's book is as a contribution to this sociology of international law. "We must, while conscious of the basic preliminary questions, do what can be done even now to expose within the mass of professed rules of international law, the concealed contradictions, gaps, evasions, escapes, ambiguities and illusions which are revealed when these rules are confronted by the facts of contemporary international life" (p. 48). It is this sort of thing which is the product of his examination. He tries not only to extract from the legal materials the principles of the law, but to provide a practical criticism of the law as thus exposed —partly, as he says, by bringing out its contradictions, gaps, etc., and partly by relating the law to the actual behaviour of States and to the forces or pressures which are at work within the international system. This is a sifting of what is "living" from what is "dead" in the mass of the professed rules: the living being those principles which are to some degree operative, or are so related to the facts of international life that they might become operative. Thus, Stone's criticism is partly a practical one, and has a practical purpose; it is a sociological jurisprudence somewhat in the spirit of Roscoe Pound; it is an attempt to evaluate the existing mass of law relating to international conflict from the point of view of the social situation to which the law has to apply. If any progress can be made in working towards an international legal order, this is a more serious approach

than either of those which Stone attacks in his opening chapter; on the one hand, the uncritical advocacy of world government and world community on the other, the superficial belief that, in the international field, unqualified "power politics" is inevitable; and all international law nothing but claptrap and illusion.

Stone's very large and difficult book would require prolonged study by political and legal scientists before one could say how successful he has been in thus sifting the wheat from the chaff, and in indicating principles and techniques on which international law might build with the greatest prospects of success. Without doubt, he has provided the materials for a great deal of future work.

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The Law of Freedom as the Remedy for War and Poverty. By EMIL KORNER. (Williams and Norgate, London, 1951.) 2 vols. Pp. 1,225. 42/- stg.

Most people who believe in the "law of freedom" as a solution to anything believe also in some version of marginal utility theory. The author of this book does not. It is a most comprehensive study of the absence of relation between these two things as far as the relation is theoretical. The book shows a familiarity with the vast literature on the subject which is rare.

The book is based on an assumption that there is something which can properly be called *"The"* remedy for world troubles, which can be applied quickly and will change conditions to accord with the author's value judgements. It seems also to be based on the assumption that there is no necessary or significant connection between "basic economic institutions" and the "institutional framework within which [they] must function". It seems that the author believes that the institutional framework can be "discarded or effectively altered" so as to achieve "correct functioning of the economic system". Apparently the basic economic institutions have had little to do with producing the institutional framework, and apparently something which they may need can be altered without touching them.

The author believes that "the principles of the *ordre naturel*" are correct beyond dispute, but they did not promise an immediate approach, but one by the "devious path of wisdom gained by painful experience". But what did the "painful experience" produce?

"War, economic brigandage, amateurish experiments of economic planners and regulators . . . the hocus-pocus of gold cover, monetary standard and free coinage, inflation, devaluation, deflation, and exchange rate stabilization, trade treaties, export and import sub-

sidies and prohibitions, protective and revenue tariffs, compulsory syndicates, cartels, monopolies, consulates, State-controlled customs, currency, passport and visa offices, immigration and labour permits . . .'' We must put an end to all this, advises the author. We must put an end, too, it should be noticed, to all forms of national sovereignty, arms and ideologies which would encourage conflict—not an easy task. We must acquire ''new processes of thought''; the problems ''*must be solved now*''. One must ask just how seriously does the author expect us to take all this?

Volume I provides a most useful summary and examination of some of the principles which have arisen from specialized study of motive forces and mechanisms behind self-action. There is also a similar examination of principles which show how self-action could lead to a social optimum of good. But at the end we are advised to ''realize what is rational preferably in a rational way''.

Volume II, Book I, develops the concept of the ''Working Time Screw''. Its ''driving gear'' is exchange in markets and, apparently, the driving force is self-interest. But how can it be stopped from producing all the things it has produced, and which the author now wants to abolish? Recommendations which may have any use in practical policy making are confined to a belief that flexible adjustments of working time, wages, etc., and other market conditions would produce a desirable result. Book II deals with the ''Foundations of 'Income Distribution' ''. ''Exchange,'' the author recognizes, ''is based, of course, on ''a fairly equal degree of power''. Harrington recognized that unless it was, one could expect considerable injustice and exploitation. But many years have passed since *Oceana* was written and perhaps the point does need emphasis to-day. Korner does give this emphasis. This appears to be the critical point of the book. But what follows from it? As before, any suggestions which might find their way into practical policy are vague and not very realistic.

The author may reply that he is not concerned with practical policy. But he is concerned with changing the world. Can it be done as an individual might change by religious conversion?

We learn that the ''main aim and purpose of the present treatise'' is to show ''how the revolution in economic thought brought about by the exponents of marginal utility theory means the very reverse of the meaning of 'Copernican turning point' . . . [it] gave no new impetus to the human mind, but did the very opposite. It was retrogressive . . . a plunge into the abysmal condition in which guesswork holds sway instead of knowledge, in which truth is placed in feelings instead of in reason''. The ''older'' theory (based on labour) had ''saved us from conjecture and sooth-saying''. (Vol. II, p. 525.)

The author makes out a strong case based on an extensive knowledge of economic theory for this point of view. But it might have been better had he confined himself to this important and useful task. In turning to an attempt to deal with the problem of world reform by a single remedy he writes unrealistically to the point where the value of his other work may be overlooked.

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ECONOMICA

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CONTENTS

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Civil Service Pay, 1875 to 1950 .. .. *Guy Routh*
Economic Theory and the Cutlery Trades .. .. *Harry Townsend*
Comment on Mr. Lancaster's Refutation .. .. *Harro Bernardelli*
Rejoinder to Mr. Bernardelli .. .. *Kelvin Lancaster*
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All communications should be addressed to the Publications Department of the London School of Economics and Political Science, Houghton Street, Aldwych, London.

BOOKS RECEIVED

A.—AUSTRALIAN AND NEW ZEALAND PUBLICATIONS

ADAMSON, A. V. : *The Valuation of Company Shares and Businesses.* Second edition. (Law Book Co. of Australasia, Melbourne, 1954.) 35/- Aust.

"Since publication of the first edition of this book there have been more judicial decisions to throw light upon the complex problem of valuing shares and businesses, and the original text has been extended to include these and also some practical examples which have been taken from actual valuations. It is thought that the introduction into the first chapter of a discussion on the ethical approach to valuation and advocacy will be of interest to readers."

BELSHAW, CYRIL S. : *Changing Melanesia : Social Economics of Culture Contact.* (Geoffrey Cumberlege, Oxford University Press, Melbourne, 1954.) 17/6 Aust.

FOENANDER, ORWELL DE R. : *Better Employment Relations, and other Essays in Labour.* (Law Book Co. of Australasia, Melbourne, 1954.) 30/- Aust. To be reviewed.

HARTWELL, R. M. : *The Economic Development of Van Diemen's Land, 1820–1850.* (Melbourne University Press, 1954.) 35/- Aust.

SALTER, W. E. G. : *The Measurement of Australian Industrial Production.* (University of Western Australia Press, 1954.) 5/- Aust.

WEBB, G. T. : *Depreciation of Fixed Assets in Accountancy and Economics.* (Law Book Co. of Australasia, Melbourne, 1954.) £2/10/- Aust.

B.—OTHER PUBLICATIONS.

BAKKE, E. WIGHT, AND OTHERS : *Labor Mobility and Economic Opportunity.* (Technology Press and John Wiley & Sons, New York, 1954.) $3.50.

BALAKRISHNA, R. : *Measurement of Productivity in Indian Industry.* (University of Madras, 1953.) Rs. 15/-.

Bank for International Settlements : Twenty-fourth Annual Report. (Basle, 1954.)

This document contains a brief report of the activities of the Bank for International Settlements over the period 1st April, 1953, to 31st March, 1954, together with a broad survey of world economic events during 1953. A comprehensive account of price movements, foreign trade fluctuations, changes in international reserves and the extent to which monetary policy has been applied is outlined for the United States of America and the countries of Western Europe. More limited references to the countries of the rest of the world are scattered throughout the survey.

BARCLAY, GEORGE W. : *A Report on Taiwan's Population.* (Office of Population Research, Princeton University, 1954.) $2.50.

The island of Taiwan is an example of the Asian dilemma: "Will the population cease to grow because of lower birth rates or because of higher death rates? If the situation is not resolved in the one way, it assuredly will be resolved in the other." The author discusses the facts and the difficulties in a calm and interesting survey.

BLANK, DAVID M. : *The Volume of Residential Construction.* (National Bureau of Economic Research, New York, 1954.) $1.50.

BRINEGAR, GEORGE K., and JOHNSON, STEWART : *The Market for Fluid Skim Milk.* (Storrs Agricultural Experiment Station, University of Connecticut, 1953.) No price stated.

A discussion of income and price elasticity of demand, and desirable price policies, in the market for skim milk. "If aggressively marketed", skim milk can be made a more profitable item for sellers who pursue the right price policy.

CAIRNCROSS, A. K. (ed.) : *The Scottish Economy.* (Cambridge University Press, 1954.) 30/- stg.

CAMERON, BURGESS : *The Determination of Production.* (Cambridge University Press, 1954.) 18/- stg.

CARTER, C. F., and ROY, A. D. : *British Economic Statistics.* (Cambridge University Press, 1954.) 21/- stg.

CARTER, C. F., MEREDITH, G. P. and SHACKLE, G. L. S. : *Uncertainty and Business Decisions.* (University Press, Liverpool, 1954.) 10/6 stg.

CHAMBER OF COMMERCE OF THE UNITED STATES : *Jobs or Jobless Pay?* (Washington, 1954.) $2.00.

A criticism of the proposals of the C.I.O. and other American unions for the "guaranteed annual wage", embellished with comic illustrations.

COLLOQUES INTERNATIONAUX DU CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE : *Econométrie.* (Editions du Centre National de la Recherche Scientifique, Paris, 1953.) No price stated.

CRANE, ROBERT I. : *Aspects of Economic Development in South Asia.* (Institute of Pacific Relations, New York, 1954.) $2.00.

CREAMER, DANIEL : *Capital and Output Trends in Manufacturing Industries, 1880–1948.* (National Bureau of Economic Research, New York, 1954.) $1.50.

CZERWONKY, HUGO E. : *Freedom from Insecurity.* (Public Affairs Press, Washington, 1954.) $3.50.

DEANE, PHYLLIS : *Colonial Social Accounting.* (Cambridge University Press, 1953.) 50/- stg.

GRONDONA, L. ST. CLARE : *Commonwealth Stocktaking.* (Butterworth, London, 1954.) 35/- stg.

DAY, A. C. L. : *The Future of Sterling.* (Oxford, Clarendon Press, 1954.) 23/6 Aust.

FABRICANT, SOLOMON : *Economic Progress and Economic Change.* The Thirty-fourth Annual Report of the National Bureau of Economic Research. (New York, 1954.)

Dr. Fabricant summarizes what National Bureau research findings suggest about the rate and nature of the economic progress of the United States. His analysis emphasizes the long-term growth of income per capita, as this is reflected in studies now covering eight decades.

The Report records the work done in 1953 and outlines the work ahead. Brief reports by staff members summarize findings to date in major investigations of business cycles, national income and capital formation, banking and finance, as well as the progress of a new study of international economic relations and foreign economies.

FFORDE, J. S. : *The Federal Reserve System, 1945–1949.* (Oxford, Clarendon Press, 1954.) 63/- Aust.

FORSTER, KARL : *Wasserstrassen und Raumplanung.* (Schriftenreihe des Zentral-Vereins fur deutsche Binnenschiffahrt e.V., 1954, Vol. 66.) DM. 4.80.

This monograph on waterways and regional planning is published by the German Internal Shipping Association and is mainly concerned with Germany, where, of course, river and canal transport is important. After a historical survey of the effects of waterways on human settlement and economic life, particular systems—the Rhine, the Weser, the Elbe, etc.—are examined. In the second part of the book the author considers the influence of waterways on the location of industry, and the means of financing their development. Waterways have now three uses, over which their costs can be spread: transport, electricity generation and general water supply; Professor Forster argues that they are thus very well adapted to modern economic requirements. The relation between water and rail transport is discussed, and it is suggested that waterways can play a considerable part in decentralization.

FOULKE, ROY A. : *Practical Financial Statement Analysis.* (McGraw-Hill, New York, Third edition, 1953.) $7.50.

After a brief survey of the historical background of analysis of financial statements, the author indicates the importance of the point of view from which an analysis may be made and the significance of information supplementary to the bare figures which may be supplied. He then deals with the analysis of the statements of small businesses by the breakdown of sales income. This is followed by a detailed consideration of ten balance-sheet ratios which are significant for purposes of analysis, the discussion on each relationship including a schedule showing the relevant figures for various lines of business activity for the period 1947-1951. The analysis of the income statement and surplus account is then discussed, followed by a concluding chapter on some aspects of recent accounting theory and its relation to financial statement analysis. An appendix gives a table of fourteen important analytical ratios for 1951 with inter-quartile range for seventy-two lines of business activity, grouped into manufacturers, wholesalers and retailers, and comprising over six thousand concerns.

GATT SECRETARIAT : *International Trade, 1953.* Second Annual Report. (Contracting Parties to the General Agreement on Tariffs and Trade, Geneva, 1954.) $1.50.

An important report, full of useful information for economists and future historians. 1953 witnessed a significant change in the pattern of international trade. The extraordinary price structure which had distorted international commodity flows since the outbreak of the war in Korea in mid-1950 gradually reverted to the pre-Korean situation. Important shifts in the flow of goods between the industrial areas have brought out a pattern far better balanced than at any time during the post-war period. The terms of trade between primary products and manufactures have returned to what they were before the Korean war. Trends in trade between the main political and economic areas are analysed. The report provides a background for the approaching general review of GATT by the contracting parties.

GRAYSON, HENRY : *Economic Planning under Free Enterprise.* (Public Affairs Press, Washington, 1954.) $2.00.

GOLDSMITH, RAYMOND W. : *The Share of Financial Intermediaries in National Wealth and National Assets, 1900–1949.* (National Bureau of Economic Research, New York, 1954.) $1.50.

GOLOB, EUGENE O. : *The "Isms"—A History and Evaluation.* (Harper & Brothers, New York, 1954.) $6.00.

GOULDNER, ALVIN W. : *Wildcat Strike.* (The Antioch Press, Yellow Springs, Ohio, 1954.) $3.00.

HICKS, URSULA K. : *British Public Finances—Their Structure and Development 1880–1952.* (Home University Library, Oxford University Press, 1954.) 9/3 Aust.

INDIA, GOVERNMENT OF. Department of Economic Affairs, Ministry of Finance : *The National Sample Survey, No.* 2. (New Delhi, 1953.)

INDIA, GOVERNMENT OF. Department of Economic Affairs, Ministry of Finance : *Final Report of the National Income Committee.* (New Delhi, 1954.)

INDIA, GOVERNMENT OF. Department of Economic Affairs, Ministry of Finance : *The National Survey Sample, No.* 5. *Technical Paper on some Aspects of the Development of the Sample Design.* (New Delhi, 1954.)

Institut für Weltwirtschaft. (University of Kiel) : *Die Weltwirtschaft,* 1954. Heft 1.

ISENBERG, G. : *Tragfaehigkeit und Wirtschaftsstruktur.* Publications of the Academy for Town and Country Planning, Volume 22. (Walter Dorn Verlag, Bremen-Horn, 1953.) DM. 12.

A theoretical investigation, on mathematical lines, of the carrying capacity of a country.

JOHNSON, JOHN L. : *Per capita Income of Kentucky Counties in 1952.* (University of Kentucky, 1954, mimeographed.)

The author's calculations indicate that while incomes in Kentucky are low compared with those in most other American states, their relative increase since 1929 has been considerably greater than that of the national average.

JOHNSON, V. WEBSTER and BARLOW, RALEIGH : *Land Problems and Policies.* McGraw-Hill, New York, 1954.) $6.50.

LAMBIE, JOSEPH T. and CLEMENCE, RICHARD V. (eds.) : *Economic Change in America.* (The Stackpole Company, Harrisburg, Penn., 1954.) $5.75.

MACKENZIE, COMPTON : *Realms of Silver—One Hundred Years of Banking in the East.* (Routledge and Kegan Paul, London, 1954.) 25/- stg.

MALACH, VERNON W. : *International Cycles and Canada's Balance of Payments, 1921–33.* (University of Toronto Press, 1954.) $3.00.

MANCHESTER JOINT RESEARCH COUNCIL : *Industry and Science—A Study of their Relationship.* (Manchester University Press, 1954.) 12/6 stg.

MARCUS, EDWARD : *Canada and the International Business Cycle, 1927–1939.* (Bookman Associates, New York, 1954.) $3.75.

MCNAIR, MALCOLM P. : *Operating Results of Department and Specialty Stores in 1953.* (Division of Research, Harvard Business School, 1954.) $4.00.

The usual careful analysis of the relevant statistics. "Perhaps the best that can be said of the year 1953 in the department store business is that it was the most favourable of the three rather drab years that followed 1950. . . . The story of the departmentized specialty apparel stores in this period is essentially the same, except that their predicament stands out the more starkly by reason of their specialization in women's apparel and accessories."

MIKESELL, RAYMOND F. : *The Emerging Pattern of International Payments.* (International Finance Section, Princeton University, 1954.) Gratis on request.

A thoughtful discussion of the problems involved in the approach to full convertibility of currencies.

MIGRA, ASHOK : *The Share of Wages in National Income.* (Rotterdam, 1954.) No price stated.

NEISSER, HANS and MODIGLIANI, FRANCO : *National Incomes and International Trade.* (University of Illinois Press, Urbana, 1953.) $7.50.

ORGANIZATION FOR EUROPEAN ECONOMIC CO-OPERATION : *Sulphuric Acid and the Manufacture of Phosphatic Fertilizers.* (O.E.E.C., Paris, 1953.) No price stated.

ORGANIZATION FOR EUROPEAN ECONOMIC CO-OPERATION : *The use of Aircraft in Agriculture in the U.S.A.* (O.E.E.C., Paris, 1953.) No price stated.

These are informatory booklets containing reports of working parties on two subjects of practical importance.

PASDERMADJIAN, H. : *The Department Store.* (Newman Books, London, 1954.) 16/- stg.

PATEL, G. D. : *The Indian Land Problem and Legislation.* (N. M. Tripatti, Bombay, 1954.) 30/- stg.

PFANNSCHMIDT, M. : *Die Bodenrente.* Publications of the Academy for Town and Country Planning, Volume 25. (Walter Dorn Verlag, Bremen-Horn, 1953.) DM. 8.

A discussion of land rent in its relations to land values and taxation, going back to antiquity and covering all continents. There are some special references to Australia and New Zealand.

PHELPS, CLYDE WILLIAM : *Instalment Sales Financing : Its Services to the Dealer.* (Commercial Credit Company, Baltimore, 1953). No price stated.

An explanation and discussion of the operation of sales finance companies, with particular reference to the selling of automobiles. It is argued that "the sales finance company achieves a high level of ex-

cellence in providing such services to dealers as: complete, adequate, and dependable financing; an independent source of financing for ordinary and for emergency or capital needs; sales promotion assistance; specialized know-how," and so forth. The sales finance company is contrasted with those lending institutions which "compete directly against the dealer by making direct instalment loans to his customers".

POLAK, J. J.: *An International Economic System.* (Allen and Unwin, London, 1954.) 21/- stg.

PREST, A. R., assisted by ADAMS, A. A.: *Consumers' Expenditure in the United Kingdom, 1900–1919.* (Cambridge University Press, 1954.) 42/- stg.

Proceedings of the Eighth International Conference of Agricultural Economists. (Oxford University Press, 1953.) 73/6 Aust.

RAMAN RAO, A. V.: *Structure and Working of Village Panchayats.* (Ghokale Institute of Politics and Economics, Poona, 1954.) 11/- stg.
A detailed survey of the working of local Government institutions in Bombay, Madras, and two Indian states in the years 1946 and 1947. The author finds much to criticize but has a number of constructive proposals for reform. It is evident on the basis of this sample that there are large problems of finance, of human efficiency and attitudes and of technical knowledge, to be overcome before a reasonable minimum level of local services can be provided.

RANADIVE, B. T.: *India's Five-Year Plan : What it Offers.* (Current Book House, Bombay, 1953.) 12/6 stg.

SCHARLAU, KURT: *Bevoelkerungswachstum und Nahrungsspielraum.* Publications of the Academy for Town and Country Planning. Volume 24. (Walter Dorn Verlag, Bremen-Horn, 1953.) DM. 12.

SCHUMPETER, JOSEPH A.: *Economic Doctrine and Method.* (Allen and Unwin, London, 1954.) 15/- stg.

STAGG, FRANK NOEL: *West Norway and its Fjords.* (Allen and Unwin, London, 1954.) 18/- stg.

STONE, RICHARD: *The Measurement of Consumers' Expenditure and Behaviour in the United Kingdom, 1920–1938.* Volume I. (Cambridge University Press, 1954.) £5/5/- stg.

THOMAS, BRINLEY: *Migration and Economic Growth. A Study of Great Britain and the Atlantic Economy.* (Cambridge University Press, 1954.) 42/- stg.

THURSBY, VINCENT V.: *Interstate Co-operation—A Study of the Interstate Compact.* (Public Affairs Press, Washington, 1954.) $3.25.

TUCK, R. H.: *An Essay on the Economic Theory of Rank.* (Basil Blackwell, Oxford, 1954.) 7/6 stg.

ULMER, MELVILLE J.: *Trends and Cycles in Capital Formation by United States Railroads, 1870–1950.* (National Bureau of Economic Research, New York, 1954.) $1.50.

UNITED NATIONS: *Catalogue of Economic and Social Projects of the United Nations and the Specialized Agencies, 1954.* (United Nations New York, 1954.) 12/6 stg.

UNITED NATIONS: *Commodity Trade and Economic Development.* (United Nations, New York, 1953.) 5/- stg.

UNITED NATIONS: *The Determinants and Consequences of Population Trends.* (United Nations, New York, 1953.) 30/- stg.

UNITED NATIONS: Economic and Social Council: *Competition Between Steel and Aluminium.* (Geneva, 1954.) 9/- stg.

UNITED NATIONS: *The International Flow of Private Capital, 1946–1952.* (United Nations, New York, 1954.) 3/- stg.

UNITED NATIONS: *Korean Reconstruction Agency : An Economic Programme for Korean Reconstruction.* (United Nations, New York, 1954.) No price stated.

UNITED NATIONS : *Report on International Definition and Measurement of Standards and Levels of Living.* (United Nations, New York, 1954.) 6/- stg.

UNITED NATIONS : *World Economic Report, 1952–53.* (United Nations, New York, 1954.) 12/6 stg.

UNITED NATIONS : *Economic Survey of Asia and the Far East, 1953.* (United Nations, New York, 1954.) 11/- stg.

This Survey gives for the first time an analysis of economic development in individual countries, as well as studies of the region as a whole. Regional production of food in 1952-53 was higher than in any post-war years, partly because of a good season and partly as a result of improved security conditions in most areas. Yet the food production per head is still lower than before the war. The main concern of governments at the end of 1953 was to find ways to adjust the policies to falls in the export earnings on which they so heavily depend for expenditure on development and social services.

VARIOUS AUTHORS : *Raum und Wirtschaft.* Proceedings of the Academy for Town and Country Planning, Volume 3. (Walter Dorn Verlag, Bremen-Horn, 1953.) DM. 10.

Papers on economic aspects of land use by H. Schneider, W. Huefner and H. Linde.

WALRAS, LEON : *Elements of Pure Economics, or the Theory of Social Wealth.* Translated by William Jaffé. Published for the American Economic Association and the Royal Economic Society. (Allen and Unwin, London, 1954.) 42/- stg.

WEISE, HERBERT : *Das britische Einkommensteuerrecht in wirtschaftlicher Sicht.* (Kieler Studien, No. 27–Kiel, 1954.) DM. 16.

WILLIAMS, JOHN BURR : *International Trade under Flexible Exchange Rates.* (North-Holland Publishing Co., Amsterdam, 1954.) 37/- stg.

YAMEY, B. S. : *The Economics of Resale Price Maintenance.* (Pitman, London, 1954.) 25/- stg.

REVIEW OF ECONOMIC STUDIES

Vol. XXI (3) CONTENTS No. 56

Specialisation and Efficiency in World Production .. .. .. *L. W. McKenzie*

The Problem of Oligopoly .. .. *J. N. Wolfe*

Some Aggregation Problems in Demand Analysis .. .. .. *M. J. Farrell*

Welfare Economics with Variable Tastes .. .. *J. C. Harsanyi*

A Note on a Point in Value and Capital .. .. *M. Morishima*
With Reply by *J. R. Hicks* and Rejoinder by *M. Morishima.*

The Role of National Income Estimates in Underdeveloped Countries .. .. *A. R. Prest*
With Reply by *D. Seers.*

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